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THE FUTURE OF OBSTETRICS AND GYNECOLOGY AS A SPECIALTY*

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Allow me to express my deep appreciation of the honor conferred on me at the last meeting of the section in selecting me to preside over this year's deliberations.

The honor, however, carries with it the obligation to deliver the chairman's address, the selection of the subject being left to your presiding officer. For a time I had it in mind to dodge the issue, as it were, and address you on a scientific subject. This course has decided advantages, since we physicians are accustomed to papers on scientific subjects, as we are wont to inflict them on a long suffering medical public on all occasions. On the other hand, the chairman runs no little risk of having his production, his address, far outclassed by the other scientific papers presented at this meeting. Consequently I have decided to attempt the "address" with the hope of holding your attention on account of the subject selected, since your presence here denotes that you are more or less interested in obstetrics and gynecology, although you may not be specialists.

THE SPECIALTY OF OBSTETRICS AND GYNECOLOGY

I would particularly call your attention to the title of my address, since it indicates the position I have for a long time taken and am prepared to defend regarding the specialty we are interested in. I beg you to note that the two divisions of the specialty have been linked together, and that the future of not two specialties but a single specialty will be considered. Again note what perhaps is a small matter, yet may not be without significance: The specialty is designated as obstetrics and gynecology and not the reverse. If obstetrics may be defined as the care of women during pregnancy, labor and the puerperium, and gynecology as the science of the diseases peculiar to women, it seems illogical to place what has to do with disease in advance of what has to do with care whereby disease may be prevented.

We are all more or less familiar with the discussion which has been carried on during the last twenty or more years regarding the place of gynecology as a specialty. While it probably has had little effect one way or another, for man's course in life is determined by inclination and self interest and not by what other people may say, it has shown certain fundamental defects in our medical make-up. The gynecologists as a class have deliberately confined themselves to the surgical aspects of the diseases of women, some of them openly declaring they knew nothing of obstetrics and did not care to learn. As surgeons of a special part of the human body, they have become masters of their art. It was inevitable, however, that they should become discontented with a small field of surgery, and that they should ambitiously push on toward adjacent fields. Thus we see abdominal linked to gynecologic surgery, and the gynecologist operating on men as well as women on the ground that he is an abdominal surgeon as well as a gynecologist.

The general surgeon was quick to see the inconsistency of such a position, and declared that it was time to do away with a specialty that no longer fulfilled the requirements of a specialty. The assertion that gynecologic surgery is after all merely surgery of a special field and that it can be acquired by any surgeon who is willing to devote the necessary time to its mastery, and hence should be included in general surgery, has had more and more advocates as time has gone on. Thus we see the tendency to combine gynecologic with general surgery in hospitals and teaching institutions.

It is obvious that the gynecologist would have escaped the embarrassing position of being "hoist with his own petard" had he stuck to his specialty, or, rather, enlarged his specialty so as to include all conditions and changes in the female genital tract in which his special work naturally lies. This would have led him to devote more time to the field of obstetrics, not necessarily the actual practice of obstetrics, for that is a matter of detail to be worked out by each individual, but paving the way for his true mission as a specialist, the prevention rather than the cure of disease.

The truth of the matter is, if we are honest enough to admit it, that the gynecologist has only himself to blame for the present condition of affairs. He threw himself into the development of pelvic surgery to such an extent that things outside of the operative part of one division of the specialty failed to interest him. At the society meetings he would spend hours in the discussion of operative technic, and suddenly feel the need of fresh air when a paper was read on a non-operative topic equally important and necessary to his specialty as it should have been practiced. He was bored to extinction by every part of obstetrics, everything connected with the proper conduct of pregnancy, labor and the puerperium, which if uniformly carried into effect would have made a larger part of his operative work unnecessary. For, with the exception of tumors and the results of venereal infection, the greater part of the gynecologist's work has been

* Chairman's address, read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-First Annual Session of the American Medical Association, New Orleans, April, 1920.

devoted to the task of restoring parts or functions rendered defective by neglect or bad management during pregnancy, labor or the puerperium.

Both in theory and in practice we are very apt in this country to treat too lightly the words "specialty" and "specialist." It is the common experience of heads of departments in hospitals and medical schools to receive applications from practitioners with little or no experience for opportunities to become specialists in different lines of work. It is no uncommon occurrence to receive a letter from some one ambitious to become a specialist in gynecology asking to be appointed chief assistant for a period of six months or more. The letters go on to explain that the writers have performed quite a number of abdominal operations successfully, but that they want a larger experience than their practice affords before taking up gynecology as a specialty, with never a word about obstetrics, except that they have given up obstetric work with the exception of the operative part—not a word regarding opportunities in the clinic to work out certain nonoperative problems in which they should be interested. Such things apparently never have been thought of; ambitious to a degree, the applicants want experience which not infrequently they offer to pay for, whereby they may devote their whole time to surgical gynecology, through which they plan to restore to health women suffering from lack of care during childbirth.

Where lies the blame for such a misconception of the requirements of a specialty? Why is it that men above the average intelligence, as shown by their success in practice and their medical standing in their state, should think of a gynecologist merely as a man who is devoting his life to surgical carpentering work in a special field? Is not the answer that the medical schools and hospital clinics must assume the blame fundamentally in that they have divorced obstetrics from gynecology, belittled the former and for various reasons, not the least important being economic, have given undue prominence to the surgical aspects of the latter? The result is that the ground work absolutely essential for one aspiring to devote himself to one division of the specialty of obstetrics and gynecology is lost sight of and there is a wild scramble for a short cut to fame and fortune, usually through the dexterous handling of the scalpel.

TRAINING OF THE SPECIALIST IN OBSTETRICS AND GYNECOLOGY

Obviously there are two ways of becoming a specialist in obstetrics and gynecology—one by way of practice, the gradual elimination of all medical work except in the field the practitioner is especially qualified for and interested in, the other by way of the large medical school and hospital clinics in obstetrics and gynecology. Many eminent obstetric and gynecologic specialists have achieved distinction through the first route. Financial necessities and lack of opportunity will always compel certain members of the profession to adopt the practice route toward specialism. In fact, if the narrow training in some of the hospital clinics is continued, probably better specialists in obstetrics and gynecology would be produced through the practice than the hospital route, owing to the general broad training which must result from the work of a studious, conscientious and capable general practitioner during the time he is preparing to specialize. Handicapped by the necessity of earning a livelihood while trying to perfect himself in his specialty, such a man, however, is always open to the temptation of choosing the path of least resistance, the surgical end of a specialty to the neglect of the ground work which, it is maintained, is absolutely essential to specialization in any field. Overwhelmed, buried by routine surgical work in a comparatively small field, he either remains content with a large income, or else satisfies his discontent by enlarging his surgical field and joining that large and it must be confessed ever enlarging company, men who started out to be obstetricians and gynecologists but ended in being general surgeons with a fondness for gynecology.

If there be a future for obstetrics and gynecology it must come, I believe, from the departments in the medical schools and from hospital clinics organized and maintained on the right basis. If the two divisions of the specialty be united it will flourish and be of immense benefit to womankind and future generations. If the two divisions of the specialty be separated in teaching institutions and in hospital clinics, in a generation or two at the farthest there will be no specialty of obstetrics and gynecology, nor will there be specialists in either of the two divisions. Obstetricians will cease to exist because the brightest of the rising medical generation will refuse to enter a specialty in which they are known as man midwives, where the work is of the hardest and the compensation very unsatisfactory. The surgically inclined bright young medical graduates of the future will certainly not choose gynecology as a specialty—why should they when they can be enrolled in a department of general surgery and become trained general surgeons of all parts of the human body?

It is time that the medical schools recognize the manner in which the obstetric teaching clinic has been neglected in the past, and take steps to see that such conditions are remedied. The obstetric teaching material must always be a great expense to an institution, for it is almost entirely composed of so-called charity cases. Women unable to meet the expenses of confinement seek the services of the indoor or outdoor departments of the obstetric clinic attached to a teaching institution because they have confidence that they will be well cared for. In order to avoid the great expense of providing adequate hospital teaching material for senior medical students, we see even today the continuance of the outpatient obstetric department where the student cares for the lying-in woman in her home, sometimes under, but more often without, competent supervision. Why this survival of a most time-wasting and illogical method of instruction in this particular branch of medicine? The explanation usually offered that the student by this method is taught under conditions he will have to meet when he begins practice does not explain why such a system is not in vogue in other teaching departments. Why not teach surgery and general medicine in the tenements? Surely the practitioner will not always be able to send his medical and surgical patients to a hospital, and must perforce treat fractures or pneumonia at the patients' homes. The true reason is that it is cheaper to build up an outpatient obstetric clinic with its wasteful and oftentimes poorly supervised teaching than to meet the expense of an adequate hospital inpatient clinic.

Almost any teacher of obstetrics will acknowledge that he prefers to instruct with hospital patients; but, he adds, for certain reasons the number of hospital obstetric beds at his command is not large, and hence

he utilizes the outpatient obstetric clinic to make up the deficiency. Would the heads of the departments of medicine or surgery take the same attitude? If their departmental teaching material were inadequate would they arrange for groups of students to be taught in the tenements? I think not. They would send forth a cry from the house tops about the shocking dearth of material until the governing body of the school or some benevolent gentleman or foundation provided for their teaching needs.

Why then the meek and lowly obstetrician? Is it true that he merits the gibe thrown at him by a gynecologist in a recent presidential address, who makes use of this remarkable sentence: "I may be wrong, but I have always maintained that a practitioner of medicine who is temperamentally fitted for the practice of obstetrics is entirely unfit to practice selected surgery or gynecology"? This is more than a gibe; it is a challenge. It says in substance to the obstetrician that he is a man infinitely inferior to the gynecologist. To be sure, he has certain bovine qualities fitting him to sit patiently by the bedside until a woman has had her baby; but perish the thought that he is in the same class with the brilliant, dashing gynecologist with his God-given surgical abilities. To make doubly sure that the obstetrician will keep his ladylike hands off the surgical side of the specialty of obstetrics and gynecology, the same essayist advocates that "the teacher of gynecology in cooperation with the psychiatrist of our medical schools should aid in selecting and directing men because of special fitness to the pursuit of this or any other important specialty." There are certain merits to this suggestion for, if during the course of this remarkable mental test these two collaborators, the gynecologist and psychiatrist, by any chance were to run across an applicant who had ambition to become an expert in everything, physical and functional, pertaining to the genital tract of women, it would be comparatively easy to have such a person become either a temporary or a permanent occupant of the psychiatric clinic.

The truth of the matter is that the obstetrician without adequate training in gynecology is handicapped as much as but no more than is the gynecologist without obstetric training. Both are unfinished products, and neither can afford to reproach or insult the other. Their deficiencies cannot be made good by adding diseases of children or abdominal surgery to their respective fields of labor.

As a matter of fact, the future of the specialty of obstetrics and gynecology depends on the policy of the medical schools toward the specialty in the next decade. They must face the issue now in order to provide for the future. If adequate funds and facilities are provided for departments of obstetrics and gynecology, and the two divisions combined under one head, the specialty will flourish; the subjects will be well taught, and high grade research work will be turned out. If, on the other hand, the policy of selecting separate heads for obstetrics and gynecology prevails, the reverse will take place. Obstetrics will languish because opportunities will not be afforded the department to consider and treat the results of obstetric complications and errors. Gynecology, separated from obstetrics, will tend to become more and more a surgical specialty, for reasons already set forth, and there will be no legitimate excuse for not making it a part of general surgery. Clinging with desperate grasp to abdominal surgery will not save it, for the general surgeon is or should be a master of that part of surgery. Inevitably the chairs of gynecology will disappear, possibly weakly nourished for a while under titles such as professor of clinical gynecology, but eventually they will be absorbed by general surgery. Vain will be the appeals to avert the inevitable. Talk about research in gynecologic fields or superior work of the gynecologist as compared with the general surgeon will fall on deaf ears. United with obstetrics, gynecology will survive; separated, it will gradually cease to exist.

Time does not permit, nor is this the occasion to take up in detail the organization of the ideal department of obstetrics and gynecology. It remains to consider only one feature of such a department, since the future of the specialty under consideration will depend on how well this part is provided for. I refer to the opportunities that will be furnished young graduates to spend five or more years in equipping themselves for their special work. No matter what may be the permanent personnel of the department, it is essential for the future of the specialty that a way be provided for the thorough training of these young men in obstetrics and gynecology. It goes without saying that they should be recompensed enough for their hospital and teaching work to keep them free from financial worries. Their hospital service should be so arranged and graded that they will be as much at home in obstetrics as in gynecology, and vice versa. In fact, the two divisions should be treated as one subject, the patients on whom the studies are being conducted being in different groups for hospital administrative purposes only.

It is comparatively easy under such a system to see that the surgical side of the specialty is not overemphasized. While in five years the assistant naturally becomes a trained obstetric and gynecologic surgeon, it is possible during this time to interest his eager young mind in other than mechanical problems. While he will be interested in surgery, he will recognize its limitations and be equally if not more interested in problems that will make surgery less and less necessary.

With a man so trained it makes no difference, if he goes into practice, instead of continuing his academic career, whether he decides to be a specialist in obstetrics and gynecology, or chooses to devote his time to one division of his specialty. One need not worry about the hardships of being up all night with a confinement case and then being obliged to do difficult hysterectomies the next day. These are details for each man to work out. So far as the future of obstetrics and gynecology is concerned, I myself am interested only in seeing that he keeps the faith and finds enough in his specialty to interest him so that he will do his regular work well and add a little something to the sum of human knowledge. Well grounded in obstetrics and gynecology, the specialty of his selection, I know that he will be interested in everything connected with it, and that, being interested, he will not be chasing after "the false gods" who seem to trouble some people so much.

RELATION OF ABDOMINAL SURGERY TO OBSTETRICS AND GYNECOLOGY

Finally, what about the relation of abdominal surgery to obstetrics and gynecology? If the preceding argument be correct, why is it necessary or even wise to include papers on abdominal in contrast to pelvic sur-

gery in the work of this section? The wisdom of such a course is at once apparent if it be borne in mind that the trained obstetric and gynecologic surgeon must be versed in abdominal as well as pelvic surgery in order to be competent to meet the emergencies which will arise in his special surgical work. While making no claims for specialization in abdominal surgery, the obstetric and gynecologic specialist must be prepared at any moment to resect the intestine and care for the appendix and gallbladder, if such surgery be demanded when the abdomen is opened for pelvic disease. This is only justice to the patient, and is common sense as well.

In order to be competent in surgical work of this description the obstetrician and gynecologist must not only have had the necessary technical experience but must be conversant with the literature and the constant improvements taking place in abdominal surgery. Hence it is fitting and a wise practice to include papers on this allied field of surgery in the work of the section.

Actual experience and technical skill in abdominal as contrasted with obstetric and gynecologic surgery should be acquired in departmental hospital clinics by cooperation with the general surgical clinics. Arrangements can easily be made for interchange of services at some period of the training, to the mutual benefit of the members of both the obstetric and gynecologic and general surgical staffs. In fact, this principle of free interchange of services should not be confined to surgery alone, but should apply to all departments of the hospital, where such an arrangement will make for better training in obstetrics and gynecology.

RECENT STATISTICS OF HEART DISEASE

WITH SPECIAL REFERENCE TO ITS INCREASING INCIDENCE *

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The statistics of heart disease are probably the least satisfactory of medical statistics because of the apparent impossibility of a precise and inclusive definition. No disease better emphasizes the principles and suggestions laid down by the late Dr. Charles A. Mercier, on the subject of causation, with special reference to causes of death. Mercier's work on "Causation and Belief" should be read by all who desire to do full justice to controversial questions in medicine concerning the so-called causes of disease or death, or the conditioning circumstances affecting the results of treatment. As observed by Mercier: "The cause of death is always a function of two variables—the power acting to maintain the unchange that we call life, and the action or actions that increase the work that the power has to do." He refers to a definition adopted by the registrar general, observing: "The fatal manifestation of a disease is, I surmise, what the registrar general means by a terminal condition or mode of death; but as he gives no indication whatever as to what he does mean, this can be no more than a surmise. In such cases the disease may appropriately be called the principal cause of death, and the manifestation the precipitating or subordinate cause of death."

If so acute a mind as Mercier's could not arrive at a clear understanding of the terminology of disease, it is certainly a hopeless task for an average mind to attempt what seemingly defies analysis; but as a practical question it may safely be asserted that the ordinary definitions meet all reasonable requirements and that our vital statistics are approximately trustworthy except so far as modified by important and possibly far-reaching changes in the practice of classification. To no disease perhaps does this conclusion apply more than to heart disease, which, of course, is not a specific term but rather one which has simply the sanction of long continued use. In the earlier statistical reports, sudden death, for illustration, is of frequent occurrence, but is relatively rare in modern mortality investigations. As has been said by Dr. Theodore Fisher, "When we speak of sudden death, both medical men and those without medical training generally think at once of the heart"; but this by no means justifies the classification of a sudden death as being attributable, without the chance of error, to a diseased condition of the heart. There is no more illuminating discussion of sudden deaths than the treatise by Brouardel, whose masterly analysis brings out the fact that sudden deaths due to lesions of the circulatory system are by no means the only important causes or conditioning circumstances. He directs attention, for illustration, to lesions of the respiratory system, modifications of vascular tension, lesions of the digestive system and of the female genital organs, sudden death in fevers and in diabetes, diseases of the kidneys and alcoholism.

What is true of sudden death is even more true of dropsy and old age. These earlier terms, common in the practice of medicine fifty years ago, are now practically obsolete, it being clearly recognized that dropsy, for illustration, is a symptom and not a disease within the strict definition of the term. It is therefore grotesquely erroneous to compare the mortality from heart disease in modern registration reports with the returns of a generation ago, without the required correction, which frequently cannot be made for want of access to the original material. These remarks at the outset emphasize the urgency of extreme caution necessary in discussions of the changes in the incidence of diseases of the heart and circulatory system frequently bordering on the ridiculous and the grotesque. Before much progress can be made in scientific discussions of so-called heart disease, much further research in clinical medicine is imperatively called for.

No one has more clearly recognized this need than Sir James Mackenzie, perhaps the foremost authority on heart affections, and now the director of the Institute of Clinical Research of St. Andrews' University, Scotland. In his opening address, Sir James took occasion to lay it down as a first principle that, "as disease is made manifest to us only by the symptoms it produces, it is imperative that the first step should be to understand the nature and significance of symptoms." Calling attention to the vast amount of superficial and frequently thoroughly inaccurate information, he refers to the question of heart murmurs as evidence of heart impairment, although "the knowledge of how to assess the value of murmurs is lacking." Referring also to the practice of life insurance examinations for the purpose of ascertaining heart impairments, he remarks that life insurance examiners, whose duty it is to assess the

* Read before the Association of Cardiac Clinics at the New York Academy of Medicine, New York, Feb. 26, 1920.

value of symptoms, have not yet awakened to the fact that the methods employed are but a species of guesswork, and that they have not yet realized that accurate knowledge of this kind is absolutely necessary to the progress of medicine. Or, regarding the work of the ordinary doctor, who, he points out, "should not only be able to recognize the signs of disease, but able to say how much work a man with a given impairment should be able to perform," he comes to the lamentable conclusion that "this is the kind of knowledge which nowhere exists." This address by Sir James Mackenzie,[1] next to the work by Mercier, is one of the most valuable foundations for sane and conservative views on a subject which imperatively demands much more qualified consideration than it has thus far received, on the part both of the medical profession and of the laity.

HEART DISEASE AMONG MEN OF MILITARY AGE

It would obviously carry me entirely too far if I were to enlarge further on the clinical research aspects of heart affections and the problem of possibly profound changes in the relative rate of frequency occurrence during recent years. But I may properly direct attention to the importance of heart disease in childhood and youth, which has been made the subject of an admirable discussion by Dr. Charles W. Chapman, and the even more important question of "disordered action of the heart" (D. A. H.) or "valvular disease of the heart" (V. D. H.), in its relation to military service. The last named subject has been made one of extended inquiries by the Medical Research Committee, which include a brief but important discussion of terminology and an outline of symptoms, with a particular bearing on questions of statistical analysis. This work concludes with the suggestive observation that "the high incidence of the condition amongst men of sedentary occupation, and the frequency with which these men fail during training, call for more tender methods in the initial stages of training the conscript who for years has been accustomed to taking no exercise." This conclusion is applicable to the problem of occupational therapy as much as to the more restricted field of military usefulness. The work emphasizes the practical possibilities of heart disease prevention, and suggests a reconsideration of much of the advice summarized under the title of "What Heart Patients Should Know and Do," by Dr. J. H. Honan.

The relative frequency of heart diseases among men of military age has now been ascertained with reasonable accuracy, just as this has been the case in life insurance experience. In the latter, however, a certain element of selection operates, which is practically absent in military experience under the universal draft. The ratio of heart impairment in the army experience, represented by 85,143 cases, was 26.26 per thousand examined, or not quite 3 per cent. The rate was highest for the state of Washington, or 61.55 per thousand, and lowest for Wyoming, or 13.47 per thousand. It may be questioned whether the draft experience was sufficiently large and based on uniform methods of examination to justify final conclusions regarding the relative incidence of heart disease in different sections of the country.

The foregoing observation refers exclusively to valvular disease of the heart and endocarditis. Cardiac hypertrophy and cardiac dilatation are represented by an impairment rate of 4.65 per thousand examined, the range having been highest for Nevada, or 10.63, and lowest for Arkansas, or 1.57 per thousand. Myocarditis and myocardial insufficiency caused an impairment rate of 0.72 per thousand, having been highest for Maine, or 16.40, and lowest in the District of Columbia, or 0.17 per thousand.

Combining all forms of organic diseases of the heart, the total rejections on this account were equivalent to 30.74 per thousand examined, the rate having been highest in the state of Washington, or 68.84, followed by Maine, with a rate of 55.70; Utah, with a rate of 54.60; Michigan, with 50.30, and Maryland, with 46.58 per thousand. It would not seem safe to rely on these returns for a true measure of the geographic incidence of heart disease, but the data are suggestive of a further inquiry into the facts. It may be suggested in this connection that much more extended medical consideration should be given to the statistical results of the defects found in drafted men, as presented in a Senate report to the Surgeon-General of the Army by Lieut.-Col. Albert G. Love and Dr. Charles B. Davenport. The conclusions of these officers on the general subject of organic diseases and defects of the heart are given in full as follows:

> This group, which includes valvular disease of the heart, cardiac hypertrophy, cardiac dilatation, myocarditis, myocardial insufficiency, and endocarditis, is second in importance only to the great group of mechanical defects. Valvular disease of the heart was recorded in over 88,000 cases, cardiac hypertrophy in 11,389 more, myocarditis in 1,792, and endocarditis in 2,782. Altogether the group contains over 120,000 cases, or about 5 per cent. of the men examined. Of the 120,000 odd cases of organic defects of the heart, a large proportion properly enough was rejected for military service of any sort; namely, 90 per cent. There were, however, accepted for general military service, 2,872 cases of mitral insufficiency and 300 cases of mitral stenosis. One thousand one hundred and fifty cases of mitral insufficiency were placed in the limited-service group. Practically no cases were regarded as "remediable."

Recalling the words of caution of Sir James Mackenzie, it may safely be concluded that qualified ability for heart examinations on the part of many of the physicians employed in the draft examinations was wanting to give to the statistical results a full measure of scientific finality; but in a general way they may be relied on as sufficient for the purpose of emphasizing the important conclusion that all forms of heart impairment are not likely to exceed in relative frequency 3 per cent. of the men of military age, or about the same as were rejected on account of pulmonary tuberculosis (29.77 per thousand).

The results of life insurance experience are less applicable to practical requirements on account of the fact (1) that obvious cases of heart impairment do not present themselves for examination, and (2) that, in the words of Sir James Mackenzie, the methods of examination have hardly been sufficiently perfected to justify the rejection of a fair proportion of cases on the basis of mere murmurs, the true nature of which is not understood at the present time. In the experience of the Prudential Insurance Company of America, during the period 1915-1918, the rejections on account of heart impairments have been 24.4 per thousand examined, but the fact must not be overlooked that the practice of different companies varies and that while some are extremely cautious, others are grossly

1. The views of Sir James Mackenzie, in a more convenient form, are set forth in his treatise, "Principles of Diagnosis and Treatment in Heart Affections," London, 1916.

negligent in fully safeguarding their own interests against the ever-present risk of adverse selection.

INVESTIGATION OF THE MEDICO-ACTUARIAL COMMITTEE

An important contribution to the subject is the investigation of the Medico-Actuarial Committee into the mortality of males from organic diseases of the heart, which shows that the rate of mortality increases in insurance experience in about the same manner as among the public at large. Table 1 exhibits the mortality rates from diseases of the heart per 10,000 exposed to risk, according to the duration of insurance, for the three age periods 15-29, 30-44, and 45 and over.

TABLE 1.—MORTALITY RATES, PER TEN THOUSAND EXPOSED TO RISK, FROM ORGANIC DISEASES OF THE HEART *

Policy Years	Males: Ages at Entry 15-29	Males: Ages at Entry 30-44	Males: Ages at Entry 45 and Over	Females: Ages at Entry 15-29	Females: Ages at Entry 30-44	Females: Ages at Entry 45 and Over
1	0.7	1.2	5.1	0.9	1.5	7.5
2	0.4	1.3	8.6	1.1	2.2	9.5
3-5	0.7	3.0	14.1	1.8	3.0	14.0
6-10	1.5	3.7	25.4	2.3	3.2	26.1
11-24	3.8	9.8	45.9	3.4	9.7	48.1
Total	1.4	4.0	19.9	1.7	3.3	19.6

* Medico-actuarial investigation, 1913.

The medico-actuarial experience is most suggestive as regards the relative incidence of heart diseases at different periods of life for the two sexes. Table 2 shows the percentage of deaths from organic diseases of the heart in the mortality from all causes, according to age at entry and with distinction of sex.

TABLE 2.—PERCENTAGE OF DEATHS FROM ORGANIC DISEASES OF THE HEART TO ALL CAUSES *

	Ages at Entry 15-29	Ages at Entry 30-44	Ages at Entry 45 and Over
Males	3.0	5.9	10.6
Females	3.3	5.3	10.7

* Medico-actuarial investigation, 1913.

The table confirms the previous conclusion and at the same time illustrates the practical value of the proportionate mortality figure regardless of its inherent limitations. To make this comparison complete, Table 3 shows the comparative death rates per 10,000 exposed to risk, according to divisional periods of life, with distinction of sex, disclosing practically identical results for both males and females.

TABLE 3.—DEATH RATES FROM ORGANIC DISEASES OF THE HEART PER TEN THOUSAND EXPOSED TO RISK *

	Ages at Entry 15-29	Ages at Entry 30-44	Ages at Entry 45 and Over
Males	1.4	4.0	19.9
Females	1.7	3.3	19.6

* Medico-actuarial investigation, 1913.

STATISTICAL RESULTS OF THE PRESENT INVESTIGATION

Table 4 shows the mortality from different forms of heart disease in the United States registration area during selected years sufficient for the purpose of indicating the trend of the recorded mortality figure. This figure must not be confused with the probable actual mortality, which cannot be ascertained at present without a thoroughly qualified reexamination of original death certificates, to preclude the risk of serious errors in the earlier classifications.

It will be observed that in this table the rate of deaths from pericarditis and acute endocarditis have decreased, and quite materially so. In contrast, all forms of heart disease have increased from 131.9 per hundred thousand of population in 1900 to 169.0 in 1918. Within recent years the practice has become almost uniform for registration officers and others concerned with the tabulation and analysis of causes of death to amplify more or less doubtful death certificates by means of subsequent correspondence with the attending physician. In the case of the Prudential, probably not less than 10,000 letters a year are sent out to correct original errors, which materially changes the results of recent years when compared or contrasted with the past. It is regrettable that so much correspondence should be necessary, frequently to the annoyance of the attending physician, who alone is in a position to make out the original death certificate in exact conformity to rules of statistical practice as issued by the Census Office.

TABLE 4.—MORTALITY FROM HEART DISEASES, U. S. REGISTRATION AREA, 1900-1918

Year	Death Rates per Hundred Thousand of Population: All Forms of Heart Disease	Pericarditis	Acute Endocarditis	Organic Heart Disease	Angina Pectoris
1900	131.9	2.6	11.9	111.1	6.4
1905	152.1	1.7	12.5	131.2	6.7
1910	156.8	1.2	8.9	141.5	7.2
1915	165.1	1.1	9.1	147.1	7.7
1916	168.0	1.0	9.3	150.1	7.8
1917	170.9	1.1	8.9	153.1	7.9
1918	169.0	1.1	8.2	152.3	7.4

Table 5 shows the mortality from heart diseases in the original registration states, or such as constituted the registration area of 1900, being chiefly the states of New England, New York and New Jersey. In these states there has apparently been an increase of 52 per cent. in the mortality from heart diseases; but a large proportion, if not the major part of this increase is attributable to changes in death certification and classification, or the correction of death certificates in amplification of the original cause of death.

TABLE 5.—MORTALITY FROM HEART DISEASES IN THE TEN ORIGINAL REGISTRATION STATES

Year	Population	Number of Deaths	Rate per 100,000 of Population	No. Deaths to Every 100 in 1909
1909	19,685,989	26,879	136.5	...
1905	21,451,343	34,836	161.6	118
1910	23,813,784	42,865	180.0	122
1915	25,841,253	49,742	192.5	141
1917	26,658,009	55,425	207.9	152

How far this conclusion affects the returns for a state like Massachusetts, where the subject has received careful consideration for many years, is shown in Table 6, in which separate age periods are considered in detail for quinquennial periods, commencing with 1868 and ending with 1917. This table is extremely suggestive and clearly emphasizes that the larger portion of the actual increase in the combined rate falls on the age period 40 and over, when, of course, heart diseases are relatively more common than at the younger periods of life. No convincing explanation has been forthcoming why the deaths from heart disease at ages 60 and over should have increased from 414.2 per hundred thousand of population to 1,613.5 during a

period of fifty years. There certainly is nothing startling in the textbooks on the subject which would explain this extraordinary increase, if true, as a pathologic phenomenon similar to the considerable increase in the cancer death rate, to which every writer on the subject gives more or less extended attention. The heavy rise in the incidence of heart affections in old age is, therefore, probably much more apparent than real, and in all probability chiefly the result of formerly erroneous methods of death classification and the transference of deaths formerly classified as dropsy, old age, sudden death, etc., to the more specific group of heart affections.

TABLE 6.—MORTALITY FROM HEART DISEASES IN MASSACHUSETTS

Death Rates per Hundred Thousand of Population

Year	All Ages			Ages Under 5		
	Persons	Males	Females	Persons	Males	Females
1868-72	73.0	78.5	67.9	44.4	50.5	38.3
1873-77	83.1	89.1	77.5	45.8	50.4	41.2
1878-82	104.0	109.2	99.2	45.0	45.7	44.2
1883-87	128.4	130.6	122.5	62.7	65.5	59.8
1888-92	153.8	166.0	154.0	65.7	68.3	75.0
1893-97	156.4	162.5	150.6	77.4	86.8	67.8
1898-02	166.2	165.5	151.4	72.5	81.6	63.2
1903-07	191.7	201.5	182.3	69.5	79.6	59.2
1908-12	184.5	187.5	181.6	41.7	43.5	39.8
1913-17	215.1	218.5	211.8	32.8	34.3	31.3

Year	Ages 5-9			Ages 10-19		
	Persons	Males	Females	Persons	Males	Females
1868-72	14.0	11.6	16.5	22.2	18.9	25.4
1873-77	16.4	13.5	19.4	24.2	23.6	24.8
1878-82	23.3	22.9	23.6	25.0	24.4	25.6
1883-87	29.1	29.8	27.4	31.5	27.2	35.7
1888-92	31.5	28.2	34.9	37.2	36.4	37.9
1893-97	22.8	19.5	26.0	33.1	32.6	33.6
1898-02	20.5	19.4	21.7	30.9	25.1	28.7
1903-07	27.0	23.1	30.9	32.9	31.3	34.4
1908-12	26.7	23.7	29.8	32.5	28.7	36.3
1913-17	29.9	29.6	30.2	36.8	33.8	39.8

Year	Ages 20-39			Ages 40-59		
	Persons	Males	Females	Persons	Males	Females
1868-72	37.5	35.9	38.9	95.8	98.6	93.0
1873-77	41.6	40.0	43.1	110.6	115.0	106.4
1878-82	44.3	41.8	46.6	130.1	137.2	123.5
1883-87	47.0	44.5	49.3	162.4	159.4	165.2
1888-92	59.0	54.7	63.1	205.2	216.5	196.7
1893-97	52.5	50.2	54.6	200.0	209.3	191.3
1898-02	49.1	47.9	50.3	197.8	207.5	188.4
1903-07	55.1	54.3	55.9	239.9	259.2	221.3
1908-12	59.8	69.4	52.2	218.9	238.1	200.2
1913-17	56.6	55.8	57.4	256.3	283.2	230.3

Year	Ages 60 and Over			Ages 40 and Over		
	Persons	Males	Females	Persons	Males	Females
1868-72	414.2	510.0	333.2	187.7	210.7	166.0
1873-77	467.5	562.3	386.3	215.6	241.4	191.9
1878-82	622.0	712.4	545.5	278.3	305.1	254.3
1883-87	746.6	863.8	648.1	340.5	367.3	316.0
1888-92	970.3	1086.8	853.9	434.6	471.2	401.8
1893-97	1015.2	1157.6	898.9	442.7	477.7	411.3
1898-02	1091.5	1255.5	958.8	458.5	494.4	427.8
1903-07	1313.8	1511.6	1155.6	550.5	596.8	508.4
1908-12	1354.2	1487.8	1246.6	536.9	592.0	511.6
1913-17	1613.5	1750.2	1503.8	624.9	653.2	598.8

It may be useful to consider briefly here the relative incidence of different diseases, chiefly in adult life, and Table 7 presents the proportionate mortality from different causes, proving conclusively that, without reference to sex, heart diseases as a group are the most important affections, constituting 18.8 per cent. of the mortality from all causes at ages 40 and over. It is not conveniently possible to give this information by sex; but if the analysis were limited to females, cancer would occupy a much more important, if not a leading position in the relative standing of the different diseases.

Equally important is the fact brought out by the table that heart diseases at ages 40 and over constitute 85.8 per cent. of the mortality from heart diseases at all ages; in other words, the disease is largely one of well advanced adult life. In this respect, however, cancer is even more important, for the mortality from malignant disease is 91 per cent. at ages 40 and over, of the mortality from this disease at all ages. In contrast, the proportion is only 37.7 per cent. for pulmonary tuberculosis, and 58 per cent. for lobar pneumonia.

It will also be convenient to compare the mortality rates for different years since 1900, and for different

TABLE 7.—DEATHS IN THE U. S. REGISTRATION AREA DURING 1917

	All Ages		Ages 40 and Over		Per Cent. of All Ages
	Number	Per Cent. of All Causes	Number	Per Cent. of All Causes	
All causes	1,066,711	100.0	586,323	100.0	55.0
Pulmonary tuberculosis	93,790	8.7	35,151	6.0	37.7
Cancer	61,429	5.8	55,929	9.5	91.0
Cerebral hemorrhage and apoplexy	62,417	5.9	59,822	10.2	95.8
Heart diseases	128,719	12.1	110,476	18.8	85.8
Lobar pneumonia	74,517	7.0	43,236	7.4	58.0
Kidney diseases	82,657	7.7	70,725	12.1	85.6

causes, and in illustration of the comparative importance which should be attached to the apparent increase in diseases of the heart. Table 8 shows, for illustration, that while there has been a considerable decrease in the mortality from pulmonary tuberculosis, and a practically stationary condition in the mortality from pneumonia and violence, deaths from old age and ill-defined causes have very materially decreased, so much so that in the latter case they have practically become quite negligible. The decrease in the mortality in old age is of particular significance in that there is a strong reason for believing that deaths from this group have been largely transferred to the present group of affec-

TABLE 8.—MORTALITY IN THE TEN ORIGINAL REGISTRATION STATES AT ALL AGES

Death Rates per Hundred Thousand of Population

Year	All Causes*	Tuberculosis Pulmonary	Cancer	Apoplexy, Cerebral Softening	Arterial Diseases, Embolism and Thrombosis	Pneumonia	Kidney Diseases	Old Age	Violence	Ill Defined†
1900	17.1	172.8	63.8	76.0	9.3	175.4	91.6	50.1	87.5	16.6
1905	15.8	155.6	73.5	82.9	16.2	148.7	103.1	37.8	103.6	7.9
1910	15.6	140.6	82.8	87.3	30.0	158.6	109.3	25.8	97.0	16.3
1915	14.2	126.1	91.6	92.6	33.3	147.9	114.3	16.6	94.4	2.2
1917	14.9	127.5	94.5	100.5	37.8	164.4	119.7	12.4	108.6	2.5

Number of Deaths to Every 100 in 1900

1905	92	90	115	109	174	85	113	75	118	48
1910	91	81	130	115	323	90	119	51	111	98
1915	83	73	144	122	358	84	125	33	108	13
1917	87	74	148	132	406	94	131	25	124	15

* Rates per thousand.
† Principally dropsy, heart failure, sudden death, etc.

tions of the heart. The increase in the mortality from apoplexy and cerebral softening is probably a more accurate measure of the increasing intensity in life strain, and more so than the corresponding statistics for arterial diseases, embolism and thrombosis combined for the earlier portions of the periods, although for the last seven years of the period under consideration the rate has only increased from 30 per hundred thousand of population in 1910 to 37.8 in 1917.

The same conclusions apply to kidney diseases, which have increased from 91.6 per hundred thousand of

population in 1900 to 119.7 in 1917; but if the increase is considered only for the last seven years, the change is not of very material importance.

The question may here be raised that where so much doubt is cast on the unquestionable increase in cancer frequency, as measured by a change in the rate of incidence from 63.8 in 1900 to 94.5 per hundred thousand of population in 1917, why the much more startling and certainly extremely doubtful apparent increase in the mortality from heart disease should go unchallenged. The apparent increase in diseases of the kidneys is largely accounted for by the transfer of deaths from dropsy and the urinary and circulatory systems or groups.

Much interest attaches to the relative frequency of heart affections among the white and colored populations on account of disparity in the rates, of which no satisfactory explanation has thus far been forthcoming. For the registration area, 1914-1917, the information is shown in Table 9 that all heart affections, ages 40 and over, cause a rate of 536.2 per hundred thousand for the white population, against 672.4 for the colored. There can be no question, however, that the difference in the racial incidence of heart affections is real and not apparent. Numerous other investigations, including hospital experience, seem to sustain the point of view that the negro is more liable to this group of diseases, particularly to acute endocarditis, than is the white man. Since accurate diagnosis is more difficult in this case than in many other heart affections, it would seem a foregone conclusion that the higher rate of incidence is real, and for all practical

TABLE 9.—MORTALITY IN THE REGISTRATION AREA, 1914-1917, BY RACE AND AGE

	Death Rates per Hundred Thousand of Population					
	All Ages					
	All Races			White		
	Persons	Males	Females	Persons	Males	Females
Pericarditis	1.1	1.2	1.0	1.1	1.1	1.0
Acute endocarditis	9.1	9.4	8.8	8.8	9.2	8.4
Organic heart diseases	148.4	152.1	141.5	146.8	150.3	143.2
Angina pectoris	7.6	9.4	5.7	7.9	9.8	5.8
Total	166.2	172.1	160.9	164.6	170.3	158.5
	Ages 40 and Over					
Pericarditis	2.9	3.2	2.6	2.8	3.1	2.5
Acute endocarditis	19.6	21.0	18.2	18.7	20.3	17.0
Organic heart diseases	493.7	501.9	484.9	486.4	494.9	477.2
Angina pectoris	27.5	33.8	20.6	28.3	35.0	21.0
Total	543.7	559.9	526.3	536.2	553.3	517.7
	All Ages					
	Number of Colored Deaths to Every 100 White Deaths					
	Colored					
Pericarditis	2.1	2.2	1.9	191	200	190
Acute endocarditis	12.9	12.5	13.1	145	136	156
Organic heart diseases	169.7	178.0	161.3	116	119	113
Angina pectoris	3.7	3.8	3.7	47	39	64
Total	188.2	196.5	180.0	114	115	114
	Ages 40 and Over					
Pericarditis	5.8	6.2	5.4	207	200	216
Acute endocarditis	34.4	32.0	37.1	184	158	218
Organic heart diseases	618.7	618.1	619.4	127	125	150
Angina pectoris	13.5	12.6	14.6	48	36	70
Total	672.4	668.9	676.5	125	121	131

purposes a racial trait not explained on account of our present ignorance of the almost unexplored field of race pathology. The very much higher rate of incidence from angina pectoris in the case of the white population is also very suggestive, and is not explained by the possibility of erroneous diagnosis or death classification; for the rate for the white population is 28.3 per hundred thousand population at ages 40 and over, against only 13.5 for the colored. In other words, while the mortality from pericarditis is 107 per cent., in the case of the colored race, in excess of the normal rate for the white race, the mortality from angina pectoris is only 48 per cent. of the corresponding rate for the white population.

Much has been made of the alleged decrease in heart affections in England and on the continent, and the alleged increase in this country. The facts are quite to the contrary, at least as regards England and Wales, to which the present comparison is limited. Table 10

TABLE 10.—MORTALITY IN ENGLAND AND WALES FROM SPECIFIED CAUSES OF DEATH

	Crude Death Rates per Hundred Thousand of Population							
Year	All Causes*	Cancer	Pulmonary Tuberculosis	Heart Diseases	Apoplexy and Diseases of the Blood Vessels	Pneumonia, All Forms	Nephritis and Bright's Dis.	Violence	Old Age
1909	18.2	80.9	133.3	147.9	87.1	127.4	40.1	62.4	98.3
1905	15.3	88.9	114.6	142.2	93.9	130.5	37.6	57.1	92.8
1910	13.5	96.7	101.5	136.1	88.6	111.0	38.9	52.2	89.0
1915†	15.7	112.1	113.6	172.1	118.0	135.9	45.5	56.4	89.7
1917†	14.4	121.0	122.8	166.6	121.9	114.4	41.9	54.9	88.8
	Number of Deaths to Every 100 in 1900								
1905	84	107	86	96	95	98	92	92	94
1910	74	117	76	92	102	81	97	84	91
1915	86	135	85	116	135	99	113	90	91
1917	79	146	92	113	140	83	104	88	90

* Rate per thousand.

† Based on civil population only. Years 1915 and 1917 are not strictly comparable with previous years or with United States data.

shows conclusively that heart diseases have apparently increased in England and Wales from 147.9 per hundred thousand of population in 1900 to 172.1 in 1915, the later figures being less useful on account of the effect of the war. Equally suggestive is the apparent increase in deaths from apoplexy and diseases of the blood vessels from 87.1 per hundred thousand in 1900 to 118.0 in 1915. It is to be observed that the decline in the deaths from old age is less marked in England and Wales, although suggestive, being 98.3 per hundred thousand of population in 1900, but only 88.8 in 1917.

International vital statistics require to be used for comparative purposes with extreme caution. Few are in a position to make sure of the comparability of the data without personal inquiry in different countries and personal interviews with registration officials, practicing physicians, teachers of pathology, and the like. There is unquestionably a difference in point of view in the medical practice of America and England which cannot properly be ignored. Such statistics as are available can be relied on only in the most general way; no far-reaching conclusions can be adopted unless based on a painstaking inquiry into the actual facts, and we should not blindly accept mere statistical information, which may or may not be conclusive.

APPLICATION OF FINDINGS TO PRACTICE OF MEDICINE

The subject is entirely too large and too involved to admit of being briefly considered for the practical purpose of rendering substantial aid to the practitioner or the student of clinical medicine. From a life insurance point of view there is hardly a more important group of affections than diseases of the heart, than which probably no other is more typical of what is summed up in the term "adverse selection." As emphasized, however, by Sir James Mackenzie, we are very far indeed from having attained to a position in which the medical judgment, arrived at as the result of even the most thorough examination, can be relied on with absolute certainty in a considerable proportion

of borderland cases. Such attempts as have been made to reduce the experience which has been had to a statistical basis indicate, however, the far-reaching possibilities of really qualified research. The medico-actuarial mortality investigation, for illustration, considered the effect of an irregular pulse, of an intermittent pulse, of a pulse rate of from 90 to 100, and of a pulse rate over 100, on the subsequent expectation of life, with results which may safely be accepted at least as approximately conclusive, although the experience was not sufficiently large to be considered as final.

In the case of applicants with an irregular pulse, the ratio of actual to expected deaths was 95 per cent., but in this connection it is said in the report that:

> The low mortality is probably due to the inclusion of many cases where an irregular pulse was found on only one out of two or more examinations. Several of the companies whose experience comprised the largest part of the data were asked to investigate their cases, and it was found that the number with a persistently irregular pulse was small, the abnormality having been found in the first, but not in subsequent examinations. The committee was shown the experience of a company on a group of risks with persistently irregular or intermittent pulse, insured on substandard plans. There were about 120 deaths and the mortality was more than 50 per cent. in excess of the normal. The experience did not show separately the results of irregular pulse and intermittent pulse. Cases in which either of these conditions was found in only one out of two or more examinations were not included.

In further explanation, it is pointed out that in this class "there were undoubtedly many cases in which the condition was merely temporary, due frequently to excitement under examination; while in the substandard group of the company whose experience has been mentioned, the condition was apparently permanent." It is therefore made clear that the statistical results of the investigation cannot be relied on as entirely conclusive, for it is pointed out that the death rate from heart disease in the group considered "was distinctly heavier than the normal." Among applicants with an intermittent pulse at the time of entry into insurance, the ratio of actual to expected deaths was 113 per cent. It is explained in the report that the previous comments apply to this class also, an investigation having shown that in the great majority of cases the intermittent pulse was found on only one out of several examinations.

The death rate from heart diseases in this group was, however, "markedly higher than the normal." It is therefore safe to assume that a persistent irregular and intermittent pulse, determined by precise methods of examination, are symptoms of considerable diagnostic value.

Applicants with a pulse rate of from 90 to 100 experienced a ratio of actual to expected deaths of 172 per cent. In this group the death rate "from heart disease and pneumonia, and especially from tuberculosis of the lungs, was distinctly above the standard." The experience, which is based on 332 deaths, would seem to suggest that a high pulse rate is decidedly more indicative of a physical impairment than an irregular or intermittent pulse.

Applicants with a pulse rate over 100 represent a rather small group of individuals, no doubt on account of the attitude of the companies to reject most of such applicants unconditionally. The ratio of actual to expected mortality among this group was 205 per cent. The explanation concerning the mortality of this group of causes is, unfortunately, not sufficient for practical purposes. It is one of the lamentable defects of the medico-actuarial mortality investigation that the causes of death, in their relation to impairment, were considered only in a fragmentary manner, and not systematically presented for the larger purposes of clinical medicine.

The foregoing observations are, therefore, suggestive rather than conclusive. I have on more than one occasion suggested the urgency of a dual classification of deaths, known as the Budapest system, which would permit of a more precise judgment than is possible at present. To group the mortality from heart diseases, or the existence of impairments, without reference to secondary causes, frequently classed as primary, must needs lead to much confusion. To classify heart diseases as a group is in itself as misleading as the old classification of "fevers" and the modern classification of "malignant tumors," without reference to the site of the organ affected. Such affections as aneurysm of the valves, atrophy of the heart, displacement of the heart, fibroid disease of the heart, thrombosis or mitral stenosis are all indications of the serious limitations of the present method of a crude classification. Any one familiar with medical nomenclature is aware of the practical difficulties of a trustworthy and strictly comparable classification, even in the easily diagnosed case of valvular disease of the heart complicated by Bright's disease, or pericarditis complicated by some infectious disease of early childhood. There is, therefore, urgent need for an improvement in the statistical treatment of heart affections and in amplification of the death certificate, which should be made to include a few descriptive remarks to facilitate accuracy and uniformity in statistical analysis.

As an illustration of the foregoing, reference may be made to the etiology of pericarditis as presented by Dr. Robert B. Preble[2] in 1901. Dr. Preble, after pointing out that primary cases of acute pericarditis may clinically occur, although they are extremely rare, states that diseases in which "pericarditis appears as a complication are, in order of their frequency: pneumonia, 34 per cent.; rheumatism, 28.36 per cent.; chronic diffuse nephritis, 11.2 per cent.; tuberculosis, 10 per cent.; sepsis, 4.7 per cent.; aneurysm, 2.6 per cent., and typhoid, 1.7 per cent." He holds that the more extensive the pneumonia the greater the danger of this complication, but at the same time emphasizes the statistical difficulty of exact classification; for the mortality from pneumonia with pericarditis, according to Dr. Preble, is 92.4 per cent. Furthermore, pericarditis appears as a complication of all forms of nephritis, but particularly the chronic diffuse nephritis with contraction.

Reference may also be made here to a valuable paper on the four common types of heart disease, by Dr. Richard C. Cabot,[3] in 1914. The discussion is based on an analysis of 600 hospital cases of "failing heart," found to group themselves (1) as rheumatic, (2) nephritic, (3) arteriosclerotic and (4) syphilitic. These four types represent 93 per cent. of the total, the remainder being affected by either goiter or doubtful conditions.

The obvious purpose of all statistical inquiries into the mortality from heart affections is to aid early diag-

2. Preble, R. B.: Etiology of Pericarditis, J. A. M. A. **37**: 1510 (Dec. 7) 1901.
3. Cabot R. C.: The Four Common Types of Heart Disease, J. A. M. A. **63**: 1461 (Oct. 24) 1914.

nosis and disease prevention. Whether or not heart affections are on the increase is quite secondary to the truth, which is not in controversy, that there is an immense mortality from these diseases in comparatively early adult life, which, in the light of modern knowledge, lies unquestionably within the domain of prevention and relief. It has been said in this connection [4] that "greater accuracy of diagnosis and better statistics will hardly account for the remarkable increase in recent years in the percentage of deaths from heart disorders." The value of a periodic medical examination is therefore urged, and it is said that "the recognition of the signs and symptoms of decompensation seldom fails"; further:

> The routine examination of the heart at this stage may show some well marked valvular or other lesion, but there will often be found only such signs as a hasty examination is most apt to overlook. These may be merely a change in the quality of the first sound with a slight increase in cardiac dulness, or there may be associated an irregular pulse volume. Always in this field symptoms should receive equal or greater weight than physical signs.

Finally, the suggestive observation is made, which is fully sustained by every statistical inquiry into the subject, that "it is not the too often impossible *early* diagnosis of cardiac disease which is to be emphasized, but the *earlier* diagnosis."

As I have had occasion to say before, heart affections are of the first importance to life insurance companies. Much progress has been made during recent years which gives the assurance that examinations are made today with a much higher degree of accuracy and thoroughness than in former years. An illustration of the scientific aspects of this question is the recent discussion on "Heart Murmurs—Their Influence on Mortality," by Dr. Oscar H. Rogers and Mr. Arthur Hunter, before the Actuarial Society of America. This paper is an admirable contribution to a very limited literature, which it is hoped will be enlarged by the research work of institutions which recognize the urgency of more qualified consideration. The paper brings out the fact that applicants with mitral regurgitation without hypertrophy experience a mortality ratio of actual to expected deaths of 181 per cent. Among this class, persons underweight experience a mortality of 166 per cent. and persons overweight, of 209 per cent. Applicants affected with mitral regurgitation with hypertrophy experience a ratio of actual to expected mortality of 225 per cent. The importance of hypertrophy is emphasized by selected cases of mitral regurgitation with a history of inflammatory rheumatism, according to which applicants with little or no hypertrophy experience a ratio of actual to expected mortality of 299 per cent., whereas applicants with moderate hypertrophy experience a ratio of actual to expected mortality of 455 per cent.

The group of risks with aortic obstruction was, unfortunately, rather too small for entirely trustworthy conclusions. The ratio of actual to expected deaths among applicants with aortic obstruction without hypertrophy and with minor impairments was 179 per cent. Out of 227 deaths among this class, seventy-three, or 32 per cent., were from heart disease.

Applicants with functional heart murmurs also represent a relatively small group of risks, so that conclusions must be accepted with reserve; but the ratio of actual to expected deaths in this class was 114 per cent. The foregoing illustrations will serve the purpose of emphasizing the practical value in prognosis of statistical research practically limited to life insurance experience. I cannot do better than to restate the conclusions of Rogers and Hunter, which are deserving of most careful consideration:

> Functional heart murmurs, if carefully selected, are insurable among young applicants at standard rates; among applicants over 40 years of age, at rates calculated to provide for a substantial extra mortality.
>
> Mitral regurgitation, if carefully selected, may be insured on terms to provide for a mortality of from 150 to 250 per cent., ratings above 170 to depend on the degree of hypertrophy present in each case.
>
> Aortic obstruction is probably 25 points less favorable than mitral regurgitation.
>
> Hypertrophy of the heart, occurring in connection with heart murmurs, constitutes an additional impairment, and only moderate degrees of hypertrophy are insurable.
>
> Irregular or intermittent pulse increases the hazard of heart murmurs, and if more than slight, the combination results in a very high mortality.
>
> A heart murmur with a history of acute articular rheumatism is a very serious impairment.

COLLATERAL CAUSES OF DEATH

A qualified analysis of the mortality from diseases of the heart should include the collateral or subsidiary causes of death. This is possible only under the so-called Budapest system of dual death classification, which at present is not followed by a single registration department of this country. Some years ago, when I had occasion to discuss this question, I had an analysis made of the male mortality of the Prudential Insurance Company of America for the year 1909, limited, however, to only 2,686 deaths from diseases of the heart precisely registered as such, while in addition there were 1,855 deaths registered as due to other causes in which diseases of the heart were taken note of as a secondary or supplementary cause, disregarded for statistical purposes. There were, therefore, 4,541 deaths in which an impairment of the heart function contributed directly or indirectly to the death of the deceased. If this analysis is extended to all the different registered causes of death, some extremely interesting conclusions can be advanced which must unquestionably be of clinical, or at least prognostic, value. Thus, for illustration, there were 871 deaths from acute nephritis in this experience, of which 222, or 25.5 per cent., were complicated by diseases of the heart. There were 1,945 deaths from Bright's disease, of which 279, or 14.3 per cent., were complicated by heart diseases. In the aggregate ordinary male mortality experience of this company, out of 33,992 deaths, there were 20,547, or 60.4 per cent., without complications, while there were 1,855 deaths, or 5.5 per cent. of the total, complicated by diseases of the heart but in which cases heart disease was not specifically assigned as the immediate cause of of death. It is the practice of the Prudential to classify all deaths in which both heart and Bright's diseases are stated on the death certificate under the latter term. It is, therefore, self-evident that unless these facts are taken into account, erroneous conclusions are unavoidable.

CONCLUSION

I may say that of 8,408 deaths of males, 1,811, or 21.5 per cent., were complicated by diseases of the heart; and by specific impairments, 531 cases were

4. The Early Recognition of Heart Disease, J. A. M. A. 66:1025 (April 1) 1916.

complications of valvular disease; 347 cases, of endocarditis; 339 cases, of myocarditis; 215 cases, of organic diseases of the heart not otherwise specified, and 169 cases, of cardiac asthma and dilatation, etc. In the same experience there were 390 deaths from Bright's disease complicated by arterial diseases, principally cerebral apoplexy, from which there were 307 deaths; and arteriosclerosis, from which there were seventy-three deaths.

The foregoing statement must be sufficient for the present purpose to emphasize the extreme importance of a complete collateral analysis of all the causes of death in any discussion of heart impairments, with particular reference to the question of a possible increase in the observed degree of relative frequency. To those who wish to pursue this question further, it may be suggested that the statistics of the Roosevelt Hospital are of particular value in this connection in that they are available for a period of more than twenty years, and so stated as to emphasize the relative importance of complications, or collateral impairments, as the case may be.

ROENTGENOLOGY OF TUBERCULOUS ENTEROCOLITIS *

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The early symptoms of ulcerative tuberculous colitis are not sufficiently characteristic to make possible a definite clinical diagnosis, even in the presence of pulmonary tuberculosis. If any benefit is to come from treatment, it is imperative that the disease be recognized early, and for this recognition the roentgen ray furnishes the most certain means as yet available. A positive and independent roentgen diagnosis of tuberculous colitis is difficult, however, for there are no pathognomonic roentgen signs, as the filling defect and the absence of the normal barium shadow in the cecocolon are signs of any ulcerative lesion. Even the finding of *Bacillus tuberculosis* in the stool is of no value in determining the nature of the lesion in the intestine unless a tuberculous lesion in the lungs or *Bacillus tuberculosis* in the sputum can be excluded. Every patient with indefinite abdominal complaint should, therefore, have a complete roentgenologic and general clinical examination. Tuberculosis has such a predilection for the ileocecal coil that a lesion in this part of the intestine, especially if associated with pulmonary tuberculosis, is most likely tuberculosis. Distal segments of the colon are seldom invaded; the disease almost always involves the proximal portion, especially the small bowel, ileocecal valve, cecum, appendix, and ascending colon (Brunner [1]). Necropsies have demonstrated that from 70 to 90 per cent. of persons suffering with advanced pulmonary tuberculosis have tuberculosis of the intestine.

In reviewing the physiology of the colon, the following facts should be kept in mind for a better understanding of the abnormal colon: The cecum and ascending colon form a pouchlike expansion of the proximal part of the large bowel. Their walls are thinnest and therefore weakest, and capable of great distention. The interior depressions of the cecum correspond with the surface haustra. It is definitely known that food remains in this portion of the colon longer than in any other, and it is thought that this delay is largely due to haustration and antiperistalsis. With these physiologic functions in mind, it is not difficult to understand how their loss by disease explains the emptiness and gap in the physiologic barium shadow seen in ulcerative diseases of the colon. The bowel contents pass with abnormal rapidity, because the normal functions which retard the physiologic progress are absent.

PATHOLOGY OF TUBERCULOSIS OF THE INTESTINE

The pathology of tuberculosis of the intestine may conveniently be divided into three types: (1) nodular; (2) ulcerative, and (3) fibrous.

In the nodular type the lesion is made up of conglomerate tubercles which are principally extraluminal in their earliest stages. The nodules are not infrequently seen alone, apparently unaccompanied by tuberculosis elsewhere; they may rarely be seen in association with chronic ulcerative tuberculous ileocolitis, and in such case may be the sequel of pulmonary tuberculosis. This type can hardly be recognized roentgenologically unless it produces obstruction or encroaches on the lumen of the bowel.

The ulcerative type is frequently associated with the nodular, but in a typical instance ulcerative tuberculous colitis is the primary lesion. However, it is possible for tuberculosis to be associated with it in other parts of the body. This type is evidenced by irregularity of bowel contour in the roentgenogram; in the terminal stages it produces obstruction.

The fibrous or hypertrophic type of tuberculosis is manifested by a marked increase of fibrous connective tissue; the tubercles are discrete and relatively sparse. The large amount of fibrous tissue indicates a marked resistance on the part of the patient. It is the terminal stage of healing tuberculous colitis and pericolitis. This type gives practically the same roentgen picture as the ulcerative.

TECHNIC OF EXAMINATION

The technic of the examination is not difficult. In fact, it is the same as is used for all other diseases of the intestine. In the Mayo Clinic the enema is ordinarily employed; when necessary, the ingested meal is used; in a few cases both methods may be necessary. The enema is preferable since it demonstrates small irregularities of contour by actually outlining the bowel wall, whereas the ingested meal is so unevenly distributed throughout the normal bowel that its irregularity cannot be distinguished from that due to disease. This is especially true in cases in which there is little involvement. If the enema is employed, the colon is filled under observation up to and including the cecum. If the ingested meal is given, observations with the screen are made at intervals from the sixth to the eighteenth hour. Roentgenograms are made as a matter of record and for study.

ROENTGENOLOGIC SIGNS OF TUBERCULOUS COLITIS

The roentgenologic signs of tuberculous colitis are: (1) filling defects; (2) spastic phenomena, and (3) obstruction.

The first and most important roentgenologic sign of tuberculous ileocecal colitis is the filling defect, which is due to the ravages of the disease plus spastic manifestations. It is best seen during the screen

* From the Section on Roentgenology, Mayo Clinic.
* Presented before the Omaha Roentgen Society, March 27, 1920.

1. Brunner, C.: Tuberculose, Aktinomycose, Syphilis des Magen-Darmkanals, Stuttgart, Enke, 1907, p. 399.

examination with the opaque enema. Under pressure of the enema, the cecum and ascending colon are seen to fill irregularly and are decidedly narrowed in their transverse diameter. The normal haustral markings are absent, and Bauhin's valve is usually incompetent. After the pressure of the enema is relieved by shutting off the flow, the involved area usually empties and remains emptied, while the remainder of the colon may retain the enema for some time.

The filling defect and the localized absence of barium shadow in the cecum and ascending colon are not entirely characteristic of tuberculous colitis; I have seen them in ulcerative carcinoma of the cecum and chronic ulcerative colitis. Stierlin [2] has reported a case of carcinoma in the ileocecal coil with similar findings. Nevertheless, a lesion of the cecum and ascending colon without the physiologic barium shadow should always suggest the possibility of tuberculosis, and tuberculosis should be looked for in other parts of the body, particularly the lungs. If tuberculosis can be definitely demonstrated in the lungs, the lesion of the cecocolon, whether there is an absence of the physiologic barium shadow or not, is most likely tuberculous colitis.

Hypermotility has been emphasized by Brown and Sampson [3] as an important roentgenologic sign of tuberculous colitis. The term hypermotility can hardly be applied to this phenomenon because, strictly speaking, hypermotility refers to the passage of bowel contents, at an increased rate, along the entire alimentary canal. Hypermotility in our cases was usually due to diarrhea or achylia, and was of no more value as a diagnostic sign than a six-hour retention in the stomach would be. The gap in the barium shadow, I believe, does not represent hypermotility, but is the effect of diffuse infiltration of the bowel wall which produces rigidity of the part of the intestine affected. It is apparent from this that the physiologic functions of the diseased segment of the colon have been lost and the barium passes through it without hindrance, just as it does through a stomach diffusely infiltrated with cancer. In the absence of diffuse infiltration, spasm stiffens the walls, giving the same motoric effect.

Béclère and Mériel [4] state that an ulcerated mucosa manifests its irritability by an exaggeration of muscular peristalsis with an abnormally rapid progress of the contents of the intestine. I have never observed this muscular peristalsis, but I have seen marked spasm of the musculature of the colon due to irritability from an ulcerated mucosa, and I am inclined to think that Béclère meant spasm when he said peristalsis. Stierlin is evidently of the same opinion, for in discussing the same subject he mentions no acceleration of motility. Indeed, it has been demonstrated in operations, when the patient is under the influence of narcosis, that this spasmodic condition does exist and its extent is in proportion to the extent of the lesion. For example, if a solitary lesion is present, the spasm is localized and analogous to that seen in gastric ulcer. In this early stage of the disease usually there is no gap in the barium shadow of the ingested meal, but the irregularity of contour due to spasm may be visualized by the opaque enema even if the lesion is not demonstrable.

Stierlin, in 1911, first pointed out the absence of a physiologic barium shadow in the cecum and ascending colon in tuberculosis of the ileocecal coil. Much to his surprise, at a time when normally he expected to show the cecum and ascending colon in the roentgenogram, no shadow was visible; in its advance the shadow seemed to skip the cecum and the ascending colon. In this country Pirie [5] was the first to notice this phenomenon. By observations at half-hour intervals, continued for from four to twelve hours, he was able to prove that the tuberculous cecum does not retain the barium which normally accumulates there.

Spasm is a manifestation which, to a greater or less degree, accompanies many if not all gastro-intestinal lesions. It is one of the most perplexing conditions with which the roentgenologist has to deal. For instance, lesions so slight as to cause no irregularity of contour demonstrable in the roentgenogram may exhibit marked deformity and narrowing due to spasm. Indeed, the absence of barium from an involved area of the bowel is caused usually by spasm and infiltration of the intestine rather than by hypermotility. This type of spasm is intrinsic in origin and constant in situation; it is present at a second examination and cannot be effaced by antispasmodics.

In our cases, tuberculosis has been more frequent in the small than in the large bowel. The lesions are seen most often in the ileum and the jejunum, but the latter is less frequently affected. They occur in the bowel anywhere from a few inches to 1 foot or more apart and usually become confluent near the ileocecal valve. The affected areas are not more than one-half to three-quarters inch in width. They are slightly elevated, may or may not be studded with tubercles, and involve the entire circumference of the intestine. Palpation of the areas reveals the presence of ulcers in the mucosa.

The roentgen diagnosis of tuberculous enteritis is less certain than that of tuberculous colitis. This is probably due to the physiologic and anatomic difference between the small and the large intestine. The obstruction which is occasionally noted is not characteristic, for it is observed in other pathologic conditions. However, I have observed another sign which may have diagnostic value, namely, delay with irregular filling and segmentation of the small bowel; but further study will be necessary to establish this fact.

SUMMARY

A lesion roentgenologically demonstrated in the ileocecal coil, with irregularity of bowel contour and without the physiologic barium shadow in the cecocolon, although it may represent any ulcerative process, is probably tuberculous if pulmonary tuberculosis is present.

The tuberculous lesions may be nodular, ulcerative or fibrous. They are usually associated to a greater or less extent, dependent on the stage of the disease. The nodular type is recognized by means of the roentgen ray only if it encroaches on the lumen of the bowel, and the ulcerative and fibrous types by irregularity of contour, and in the terminal stages by obstruction.

The presence of spasm must not be overlooked, since it often causes irregularity of contour and is diagnostic even when the lesion itself is not demonstrable.

2. Stierlin, E.: Die Radiographie in der Diagnostik der Ileozoekaltuberculose und anderer Krankheiten des Dickdarms, München. med. Wchnschr. **58**: 1231-1235, 1911.

3. Brown Lawrason, and Sampson, H. L.: The Early Roentgen Diagnosis of Ulcerative Tuberculous Colitis, J. A. M. A. **73**: 77-85 (July 12) 1919.

4. Béclère and Mériel: L'exploration radiologique dans les affections chirurgicales de l'estomac et de l'intestin, Rapport 25, Congrès français de Chirurgie, Paris, 1912, p. 103.

5. Pirie, H., quoted by Archibald, E.: The Rôle of Surgery in the Treatment of Intestinal Tuberculosis, National Association for the Study and Prevention of Tuberculosis, 1917, pp. 117-134.

The opaque enema generally is preferable to the ingested meal in demonstrating the filling defect and spastic phenomena which are roentgenologic signs of tuberculous colitis. A gap in the physiologic barium shadow of the cecocolon in the more advanced cases is demonstrated by the ingested meal, but unquestionably the disease will be demonstrated earlier by the enema.

THE DIAGNOSIS OF EPIDEMIC ENCEPHALITIS

VALUE OF NASOPHARYNGEAL WASHINGS AND OF CEREBROSPINAL FLUIDS *

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During the course of investigations carried on within the past year, Strauss, Hirshfeld and Loewe,[1] and Loewe, Hirshfeld and Strauss[2] established the fact that epidemic encephalitis was due to a filtrable virus. The successful cultivation of this filtrable virus was reported by us.[3] The experimental work embodied in these reports demonstrated the close relationship of the virus and the micro-organism to the nasopharynx. Berkefeld filtrates of nasopharyngeal mucous membrane from fatal cases of epidemic encephalitis, and cultures of these filtrates when injected intracranially into monkeys and rabbits, produced the typical clinical and pathologic pictures of the disease. In view of these findings we were led to investigate, by animal inoculation and cultural studies, the nasopharyngeal washings and the cerebrospinal fluids of patients suffering from epidemic encephalitis. In this communication we desire to report our results and to point out their value in diagnosis.

Material from the nasopharynx was obtained by means of nasal irrigation with physiologic sodium chlorid solution, pharyngeal swabs, or the West tube. We have never seen any ill effects from any of these procedures. Nasal washings were filtered directly, unless the presence of an excessive amount of mucus made it necessary to shake the washings with glass beads. For the most part pharyngeal swabs were used, the swabs being carried as high up in the nasopharynx as possible and strong pressure exerted. The pharyngeal swabs were washed in several changes of saline solution, small quantities being used in order to procure a maximum concentration. The slightly turbid fluid so obtained was then filtered. In one case the thick, tenacious, mucopurulent nasal discharge was finely emulsified by grinding in a mortar with sand and physiologic sodium chlorid solution and then submitted to filtration. The filters used in the work were the the standard 5 N or W. Berkefeld or Mandler filters, which we had found perfectly satisfactory as regards their ability to hold back the usual test organisms. All filtrates before being used were cultivated on ordinary laboratory mediums to insure sterility.

Our first nasal washing was injected intracerebrally into a *Macacus rhesus* monkey. Subsequently we confined our work to the intracranial inoculations in rabbits and to cultivating in kidney tissue-ascitic fluid medium. From two to four medium or fullsized rabbits were thus inoculated intracranially with each filtrate:

The hair over the left half of the skull was first removed and iodin applied. The head was steadied with the left hand, the body and legs being held by the assistant. With experience, it was possible to dispense with the aid of the assistant. The skull of a rabbit is so thin in certain areas that it can be pierced without trephining. With the exertion of moderate pressure and with a boring movement, the needle with stylet in place was inserted perpendicularly to the lateral surface of the skull at a point 0.5 cm. behind and on a level with the upper margin of the orbit. Three c.c. hypodermic syringes with small bevel, so-called deep injection, needles of from 18 to 20 gage were found best adapted for this work. Throughout the entire procedure, strict asepsis was observed. The amount of filtrate varied; as a rule no difficulty was experienced in injecting 1 c.c., if done slowly.

Rabbits that succumbed were examined postmortem, an attempt being made to remove the brain in sterile fashion. Blocks of brain were taken in sterile physiologic sodium chlorid solution and in 50 per cent. glycerin for cultural study. The remainder of the brain was placed in 10 per cent. dilution of liquor formaldehydi for section. The sections were embedded in paraffin and stained with hematoxylin and eosin.

Cultural studies were carried out with the original filtrates and with the brains of animals injected with these filtrates. Filtrates of brains were mainly used, owing to the difficulty of obtaining the brains uncontaminated. All filtrates were inoculated in amounts of from 0.25 to 0.5 c.c. into a series of tubes containing the ascitic fluid-kidney tissue medium. The tubes were sealed with petrolatum to establish a more perfect anaerobiosis, and were then incubated at 37 C. The positive growths were evident in from five to seven days. In a few instances, rabbits were injected intracranially with these cultures to establish their virulence.

Cerebrospinal fluids removed from patients under sterile precautions were similarly subjected to culture and animal inoculation. The fluids were cultivated in amounts from 0.5 to 1 c.c. The larger amount, when injected intracranially into rabbits, proved to be too toxic, the animals succumbing rapidly without definite pathologic lesions being present. When the dose was reduced, the more typical pathologic lesions were produced. Several times, in order to determine their pathogenicity, the organisms isolated from the spinal fluids, and those recovered from the brains of the animals examined postmortem were reinoculated into animals.

RESULTS

Two c.c. of a filtrate of the nasopharyngeal washings, containing thick mucopurulent discharge, from an epidemic encephalitis patient, were injected subdurally into a *Macacus rhesus* monkey. One week later the animal developed apathy, elevation of temperature, and paresis of both hind extremities. This condition persisted for eight days and then gradually disappeared. Lumbar puncture on the sixth day of the illness revealed clear fluid under increased pressure. There were 16 cells per cubic millimeter, mostly lymphocytes.

The nasopharyngeal washings from fourteen other patients with epidemic encephalitis were injected into a

* From the Pathological Laboratory of the Mount Sinai Hospital.

1. Strauss, Hirshfeld and Loewe: New York M. J. **109**: 772 (May 3) 1919.
2. Loewe, Hirshfeld and Strauss: J. Infect. Dis. **25**: 378-383 (Nov.) 1919.
3. Loewe, Leo, and Strauss, Israel: Etiology of Epidemic (Lethargic) Encephalitis, J. A. M. A. **73**: 1056 (Oct. 4) 1919.

total of thirty rabbits. Twenty-five of these animals were examined postmortem, fourteen showing the characteristic lesions to a greater or lesser extent. The lesions consisted of meningitis with round cell infiltration, perivascular and adventitial infiltration with mononuclear cells, focal infiltration with round cells, punctate hemorrhages and edema. These lesions were present singly, but most often combined. It required from one to fifteen days for the animals to succumb. Nine of the fourteen rabbits showing lesions were dead within four days. The short period usually discharged cured. In another case, Dr. Emanuel Libman made a diagnosis of encephalitis lethargica in a woman who was supposed to be suffering from toxemia of pregnancy, for which a therapeutic abortion had been performed. Washings from the nasopharynx were submitted to us for animal inoculation. Two animals injected with the filtrate of these washings died, one in twenty-four hours, and the other in four days. Microscopic examination of these brains demonstrated the characteristic lesions in both. The woman made a good recovery.

TABLE 1.—RESULTS WITH NASOPHARYNGEAL WASHINGS (BERKEFELD FILTRATES)*

			Animal Inoculations (Rabbits)										Diagnosis Established by	
			Virus					Original Organisms						
No.	Case	Culture	No. Inoc.	No. P. M.	No. with Lesions	Time Days	Org. Rec.	No. Inoc.	No. P. M.	No. with Lesions	Time Days	Org. Rec.	Culture	An. Inoc.
1	Lea	Pos.	2	2	1	4	Yes	..	..	..	..	....	Yes	Yes
2	Tob	Pos.	2	2	2	1,4	Yes	2	1	1	8	Yes	Yes	Yes
3	Wein	Neg.	2	1	0	..	No	..	..	..	..	....	No	No
4	Bit.	Pos.	2	2	2	8,15	Yes	..	..	..	..	....	Yes	Yes
5	M. S.	Pos.	2	2	1	6	No	..	..	..	..	....	Yes	Yes
6	P. S.	Pos.	2	2	2	1,1	Yes	..	..	..	..	....	Yes	Yes
7	G-b.	Neg.	2	2	1	7	No	..	..	..	..	....	No	Yes
8	Ela	Pos.	2	2	1	2	Yes	2	2	2	7,12	Yes	Yes	Yes
9	Spar	Pos.	2	2	1	3	Yes	..	..	..	..	....	Yes	Yes
10	Sklo	Neg.	2	1	1	5	Yes	..	..	..	..	....	No	Yes
11	G-g	Neg.	2	2	0	..	No	..	..	..	..	....	No	No
12	Shuz	Pos.	2	1	1	2	No	..	..	..	..	....	Yes	Yes
13	G-h	Neg.	2	1	1	4	No	..	..	..	..	....	No	Yes
14	M-t	Neg.	4	4	0	..	No	..	..	..	..	....	No	No
15	Mach	Pos.	..	..	..	..	....	..	..	..	..	....	Yes	....
16	G-z	Pos.	..	..	..	..	....	..	..	..	..	....	Yes	....
17	W-h	Pos.	..	..	..	..	....	..	..	..	..	....	Yes	....
	Total	Pos. 11	30	26	14	..	Pos. 7	4	3	3	..	Pos. 2	Pos. 11	Pos. 11

* Explanation of abbreviations in this table and Table 2: No. Inoc., number of animals injected; No. P. M., number of animals examined postmortem; No. with Lesions, number of animals examined postmortem which showed the diagnostic pathologic brain lesions; Org. Rec., organism recovered? Cult., diagnosis established by culture? An. Inoc., diagnosis established by animal inoculation?

TABLE 2.—RESULTS WITH CEREBROSPINAL FLUID

			Animal Inoculations (Rabbits)										Diagnosis Established by	
			Virus					Original Organisms						
No.	Case	Culture	No. Inoc.	No. P. M.	No. with Lesions	Time Days	Org. Rec.	No Inoc.	No. P. M.	No. with Lesions	Time Days	Org. Rec.	Culture	An. Inoc.
1	Wein	Pos.	2	2	1	3	Yes	2	1	1	12	Yes	Yes	Yes
2	P. S.	Neg.	2	2	1	6	Yes	..	..	..	..	....	No	Yes
3	Sam	Pos.	2	2	2	1,4	No	2	1	1	14	Yes	Yes	Yes
4	Lea	Neg.	2	2	1	5	No	..	..	..	..	....	No	Yes
5	Mas	Pos.	8	5	3	2,2,5	Yes	4	2	2	7,10	Yes	Yes	Yes
6	M. S.	Neg.	2	0	..	..	....	..	..	..	..	....	No	No
7	Sing	Pos.	2	1	1	4	Yes	2	2	1	6	Yes	No	Yes
8	Bit.	Pos.	2	2	1	4	No	(derived from rabbit brain 131)					Yes	Yes
9	Bit. (6 days later)	Pos.	2	1	1	6	Yes	..	..	..	..	....	Yes	Yes
10	Spa	Neg	2	2	0	..	No	..	..	..	..	....	No	No
11*	Ela	Pos.	2	2	1	2	Yes	3	1	1	9	Yes	Yes	Yes
12	G-h	Neg.	2	2	1	1	No	..	..	..	..	....	No	Yes
13	Skol	Neg.	2	1	0	..	....	..	..	..	..	....	No	No
14	Shuz	Pos.	2	1	1	2	No	..	..	..	..	....	Yes	Yes
15	G-g	Neg.	2	2	0	..	....	..	..	..	..	....	No	No
16	G-h	Neg.	2	1	1	1	Yes	..	..	..	..	....	Yes	Yes
17	G-z	Pos.	..	..	..	..	....	..	..	..	..	....	Yes	....
18	Mach	Neg.	..	..	..	..	....	..	..	..	..	....	No	....
19	S-k	Pos.	..	..	..	..	....	..	..	..	..	....	Yes	....
20	G-h	Pos.	Organism also found in direct smear of centrifugalized fluid										Yes	....
	Total	Pos. 10	38	28	15	..	Pos. 7	13	7	6	..	5	Pos. 11	Pos. 12

* Hemorrhagic spinal fluid. Lesions in animals tend toward hemorrhagic encephalitis type.

required enhances the value of the test. The diagnosis was confirmed by animal inoculations in eleven of the fourteen nasopharyngeal washings tested, or 78 per cent.

The method was of distinct practical value in two instances. In one case, in the presence of a markedly bloody spinal tap, a differential diagnosis had to be made between intraventricular hemorrhage, cerebral neoplasm, cerebrospinal syphilis, and epidemic encephalitis. The symptoms and physical findings did not warrant making a definite diagnosis. One of the two animals injected with the filtrate of the nasopharyngeal washings of this patient succumbed within two days with the characteristic brain lesions. This patient subsequently ran the typical course of the disease, and was

Filtrates of nasopharyngeal washings from seventeen patients with epidemic encephalitis were cultivated on the kidney-ascitic fluid medium, with positive findings in eleven cases. Subcultures of many of these strains were taken successfully and carried along through several generations. In five instances the organism was recovered from the brains of animals injected with the virus of these nasal washings, and in three instances, from the brains of rabbits injected with the organisms isolated from these nasopharyngeal washings.

Cerebrospinal fluids, drawn in sterile fashion from sixteen patients having epidemic encephalitis, were injected intracranially into rabbits in amounts of from 0.25 to 1 c.c. Fifteen of the twenty-nine rabbits that died showed the characteristic microscopic lesions.

Eleven of these animals succumbed within four days, three within six days, and one, eight days after the inoculation. Animal inoculation, therefore, served to confirm the diagnosis in twelve of the sixteen cases tested, or 75 per cent.

Cerebrospinal fluids have yielded the filtrable microorganism in eleven of the twenty spinal fluids cultivated. It was found in one case on direct smear of the sediment of the centrifugalized spinal fluid. These strains were carried in one instance as far as the eighth generation. The same organism was recovered from the brains of eight rabbits injected with the spinal fluid itself, and from the brains of four rabbits injected with the organism derived from these spinal fluids.

CONTROLS

The filtrate of nasopharyngeal washings from a patient with influenza complicated by bronchopneumonia and sinusitis was injected intracerebrally into a *Macacus cynomolgus*, with entirely negative results.

TABLE 3.—CONTROLS

No.	Case	Disease	Culture	No. Rab. Inoc.	No. Rab. Exam. Postmortem	No. Rab. with Lesions	Result
		Nasopharyngeal Mucous Membrane:					
1	Lowy	Cardiovascular disease	Neg.	..	..	..	Neg.
2	S.	Appendicitis with peritonitis	Neg.	3	0	..	Neg.
3	Y. R.	Megacolon	Neg.	2	1	0	Neg.
4	F.	Mediastinal tumor	Neg.	2	0	..	Neg.
5	B.	Carcinoma of stomach	Neg.	3	0	..	Neg.
6	Sa.	Postoperative hemorrhage	Neg.	2	0	..	Neg.
7	P.	Empyema-lung abscess	Neg.	2	0	..	Neg.
		Nasopharyngeal Washings:					
1	Giv.	Sinusitis	Neg.	..	..	..	Neg.
2	Roth.	Sinusitis; bronchopneumonia	Neg.	2	2	0	Neg.
3	K.	Mastoiditis	Neg.	..	..	..	Neg.
4	B.	Pyelitis	Neg.	..	..	..	Neg.
5	R.	Appendicitis; postop. pn.	Neg.	..	..	..	Neg.
6	Re.	Empyema	Neg.	..	..	..	Neg.
7	D.	Cholelithiasis	Neg.	..	..	..	Neg.
8	T.	Nephrolithiasis	Neg.	..	..	..	Neg.
		Cerebrospinal Fluids:					
1	Lew.	Brain abscess	Neg.	3	0	..	Neg.
2	Wach.	Brain tumor	Neg.	2	2	0	Neg.
3	Bay.	Psychasthenia	Neg.	2	0	..	Neg.
4	Blake	Uremia	Neg.	2	0	..	Neg.
5	Lutz	Multiple sclerosis	Neg.	..	..	..	Neg.
6	Dug.	Tuberculous meningitis	Neg.	..	..	..	Neg.
7	Fleig	Cerebrospinal syphilis	Neg.	..	..	..	Neg.
8	S.	Spinal cord tumor	Neg.	..	..	..	Neg.

Filtrates of the nasopharyngeal mucous membrane from six patients dead of diseases other than lethargic encephalitis were used to control our rabbit inoculation experiments. Cases from the surgical wards were preferred, so as to eliminate the possibility of contact with the disease under investigation. Of the fourteen rabbits injected intracranially, only one died, and the brain of this animal had no demonstrable pathologic lesions. Encephalitis could not be produced in six rabbits by the intracranial inoculation of filtrates of nasopharyngeal washings from two patients, one suffering from influenza with bronchopneumonia, and the other from uncomplicated influenza.

Control cultural studies were carried out on the filtrates of seven nasopharyngeal mucous membranes and eight nasopharyngeal washings. This material was obtained postmortem or in vivo from cases other than epidemic encephalitis, with surgical cases preferred. Tissue-ascitic fluid cultures of this material were negative.

Cerebrospinal fluids of four cases (brain abscess, brain tumor, psychasthenia and uremia) were inoculated into nine rabbits in amounts of from 0.25 to 1 c.c. The brains of the two animals that died showed no gross or microscopic lesions.

Cultures were made of the cerebrospinal fluids in seven neurologic cases and one case of uremia with entirely negative results.

CONCLUSIONS

1. The Berkefeld filtrates of nasopharyngeal washings from cases of epidemic encephalitis produce characteristic lesions when injected intracranially into rabbits. This finding has served us as an aid to diagnosis in 78 per cent. of the cases so tested.

2. A minute filtrable organism, identical with that described before by us,[3] has been recovered in eleven of the seventeen nasopharyngeal washings cultivated, or 64 per cent.

3. Inoculation of rabbits with the cerebrospinal fluids of patients with epidemic encephalitis confirmed the diagnosis in twelve of the sixteen fluids injected, or 75 per cent.

4. Cultures of cerebrospinal fluids have been positive in ten out of twenty cases, or 50 per cent.

5. Our positive results with cerebrospinal fluid sharply differentiate this disease from poliomyelitis.

6. Our control studies have been uniformly negative.

LIPURIA ASSOCIATED WITH CHRONIC NEPHRITIS *

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Almost all of the recorded instances of fat in the urine appear under the caption "chyluria." The several features of this condition which are now more or less well recognized are the occurrence of fat, fibrinogen or fibrin, red and white blood cells in the urine, the direct quantitative relationship between the fat ingested and that excreted in the urine, and lastly, the increase in fat elimination during rest in the recumbent posture. Both the parasitic (filarial) and the nonparasitic forms have been explained by a fistulous communication of the lymphatics with some part of the urinary system. In 1908, Magnus-Levy [1] stated that lipuria could arise only in this manner. Five years later, Sakaguchi [2] found that the average fat elimination through the urine in health and in a variety of diseases was about 8.5 mg. per day, and that this amount could be increased fourfold by fat ingestion. Only in one case of chronic parenchymatous nephritis did the fat rise to 73 mg. This the author thought was probably due to an altered permeability of the renal tubules. In the course of their work on the behavior of stained fat in the animal organism, Mendel and Daniels [3] noted that rats fed on lard stained with sudan III excreted both fat and dye in the urine. Dr. Amy L. Daniels has kindly permitted us to insert two typical protocols of unpublished experiments.

* From the Department of Internal Medicine, State University of Iowa College of Medicine.

1. Magnus-Levy, A.: Ztschr. f. klin. Med. **66**: 482, 1908.
2. Sakaguchi, K.: Ztschr. f. physiol. Chem. **48**: 1, 1913.
3. Mendel, L. B., and Daniels, A. L.: J. Biol. Chem. **13**: 71, 1912-1913.

RESULTS OF EXPERIMENTS

Rat 1 received food containing 75 per cent. of lard stained with sudan. The next day the urine was distinctly pink. The residue obtained after evaporation of the ethereal extract was quite pink and contained fat as shown by the melting point and by the odor of acrolein on heating.

Rabbit 4 received 8 c.c. of sudan-stained oil administered by stomach tube. The following day the urine was pink and contained fat, as shown by the melting-point test and by the formation of a grease spot when brought in contact with paper.

More recently the work of Sanes and Kahn [4] also indicated that an abnormal permeability of the renal capillaries or epithelium might be a factor in the production of lipuria. The data at our disposal appear to support this view. At least, the available evidence makes it probable that there are at least two types of lipuria, the one associated with a fistulous communication, the other entirely due to an abnormal permeability of the renal cells.

REPORT OF CASE

History.—A white farmer (clinical number 4928), aged 37, who had never lived in a tropical region, married, and the father of four children, admitted to the University Hospital, Aug. 2, 1918, admitted a gonorrheal infection about one year previously but denied syphilis, though his wife had had two miscarriages. His family history was not significant. He had undergone two operations: an appendectomy, in 1913, and another operation for peritoneal adhesions one year later. He had also suffered from smallpox and scarlatina. His present illness began in March, 1918, with headache, swelling of the ankles and dyspnea. July 1, 1918, he first noted that his urine appeared cloudy and oily. Physical examination detected an edema of the legs, a hypertrophied heart, and blood pressure of 150 systolic and 100 diastolic. Blood examination revealed a moderate secondary anemia and a strongly positive Wassermann reaction, which was negative on three subsequent occasions after arsenical treatment. The patient was discharged much improved, Sept. 13, 1918, but was readmitted, November 26 of the same year, with headache, generalized edema and fulness of the abdomen. The heart was large, the liver palpable and tender, the blood pressure: systolic, 190, and diastolic, 120. In spite of treatment the headache increased in severity, and the eyegrounds, which were normal on the first admission, now showed albuminuric retinitis and retinal hemorrhages. The signs and symptoms of pneumonia developed, and death, which occurred, Dec. 16, 1918, was preceded by vomiting, convulsions and coma.

Urine Examinations.—The urine was always cloudy. Its specific gravity ranged from 1.013 to 1.018. It was neutral or alkaline, and contained much albumin and many casts and occasionally a few red and white blood cells. Fat globules were never present. The renal dietary test (August 6) showed a maximum specific gravity of 1.021, a variation of specific gravity of 17 points. The night urine measured 220 c.c. and had a specific gravity of 1.018. A sample of the turbid urine was evaporated to dryness and extracted with alcohol-ether mixture. The extract was precipitated with acetone. The precipitate gave positive tests for phosphorus and glycerol, thus indicating the presence of lecithin. The filtrate responded to the test for cholesterol.

The influence of fat ingestion on the fat content of the urine was studied by Bloor's method. The results are shown in the accompanying tables.

A second dietary test was performed, December 12. The maximum specific gravity was 1.020, the variation of specific gravity was 12, the night urine measured 950 c.c., and its specific gravity was 1.008. No retention of nitrogen or chlorin was found during a period of five days.

Blood Examinations.—The results are expressed in terms of milligrams per hundred cubic centimeters of blood. Owing to external conditions it was not possible to carry out all the determinations that we had in mind. August 6 (three hours after the midday meal), the urea-nitrogen content was 37; the uric acid, 3.8; the creatinin, 2; the cholesterol, 180; the glucose, 110; the chlorids, 703; the carbonates, 60 per cent. by volume, and the plasma proteins, 4,440. December 15 (patient in coma), urea nitrogen was 17.8, and the carbonates of the plasma were 44.7 per cent. by volume.

Necropsy Findings (by Dr. Frank Paul).—Each pleural cavity contained about 300 c.c. of yellowish, watery fluid, which coagulated spontaneously. The lower lobes of both lungs showed bronchopneumonia. The heart showed hypertrophy and dilatation, especially of the right side. The aorta was normal throughout. There was no enlargement of the thoracic duct or other lymphatics. The abdomen and its contents were normal except for the kidneys. These measured 13 by 8 by 3 cm. and weighed 215 gm. On section they cut with little or no resistance. The cortex measured 1 cm., was soft, and presented a yellowish, fatlike appearance. The capsules stripped easily. The pelvis contained an unusually large amount of fat. Frozen sections stained with sudan gave negative results. Further microscopic examination of the kidneys disclosed the fact that the tubules in the cortical region were swollen, and that the cells were large, cloudy and granular but not fatty. In some, the lining cells were entirely absent. The glomeruli were enlarged, and many showed an increase in connective tissue but no fatty or amyloid degeneration. A large number were adherent to the capsular wall. The capsules were thickened and very vascular. The capsular epithelium showed proliferation in certain instances. Areas of round-cell infiltration were present. The medulla was very vascular. The tubules were not as large as in the cortex. Their lining cells were clear. There was a slight increase in connective tissue. Sections of the kidney stained by Levaditi's method for spirochetes were negative. Excepting for a marked degree of endarteritis, microscopic examination of other organs, including the brain, was negative.

EFFECT OF FAT INGESTION ON THE URINARY FAT ELIMINATION

Date	Period	Fat in Urine, Gm.	Cholesterol in Urine, Gm.	Comment
Aug. 21	12- 2 p.m.	0.15		
	2- 4 p.m.	0.06		
	4- 6 p.m.	0.08		
	6- 8 p.m.	0.025		
Aug. 23	10-12 m.	0.084		
	12- 2 p.m.	0.120		Noon meal rich in fat
Aug. 26	10-12 m.	0.1215		
	12- 2 p.m.	0.168		Noon meal rich in fat.
Aug. 29	8-12 m.	0.024	0.0066	
	12- 4 p.m.	0.116	0.0099	No breakfast; noon meal rich in fat.

COMMENT AND CONCLUSIONS

The clinical, chemical and pathologic data suggest a progressive nephritis, possibly of syphilitic origin, associated with lipuria and terminating in uremia. The lipuria was influenced by the amount of fat in the diet. The absence of coagulated protein, the scarcity or absence of cells in the urine, and the apparent absence of a fistulous communication, indicate that the lipuria was due to an altered permeability of the renal epithelium. The presence of lecithin and cholesterol are worthy of note (though both substances have been found by a number of authors on previous occasions). In this case there was no increase of cholesterol in the blood. The occurrence of typical uremic symptoms without cerebral edema or retention of urea has also been pointed out before. The incidence of syphilis in this case recalls the work of Stengel and Austin,[5] who noted the frequent occurrence of doubly refractile bodies in the urine in nephritis associated with syphilis.

4. Sanes, K. I., and Kahn, Max: On Nonparasitic Chyluria, Arch. Int. Med. 17: 181 (Feb.) 1916.

5. Stengel, A., and Austin, J. H.: Tr. Assn. Am. Phys. 29: 312, 1914.

ACUTE PERFORATION OF MECKEL'S DIVERTICULUM BY FOREIGN BODY (FISH-BONE)

REPORT OF CASE *

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We have failed to find in the records of the St. Louis City Hospital any case similar to the one reported herewith, which we consider of sufficient interest and rarity to merit detailed mention.

REPORT OF CASE

History.—C. A., white man, aged 39, admitted to the hospital, Feb. 11, 1920, had suffered from abdominal pain for two days prior to admission. At first the pain was generalized, cramplike and intermittent. It was mild in the beginning, and the patient worked as usual on the first day. On the second day, the pain was more severe, confining the patient to bed. He was nauseated, but did not vomit. Late in the day, he had a severe chill. On the day of admission, the pain had become localized to the right lower portion of the abdomen, but was constantly increasing in severity. A self-administered dose of castor oil in the early morning had effected a large bowel movement, but there was no vomiting. Nausea had continued.

Examination.—The patient was well developed and well nourished. The head, neck, chest and extremities were normal. The abdomen was slightly distended; there was distinct muscular rigidity on the right side. Slight tenderness was present in the appendicular region. There was no dulness in the flanks, and no masses were palpable. Tenderness was elicited on the right side by rectal examination. The leukocyte count was 19,600. The systolic blood pressure was 135; diastolic, 80. A diagnosis of acute appendicitis was made, and an operation was performed.

Operation.—Under ether anesthesia the peritoneal cavity was opened by a vertical incision through the right rectus muscle. The appendix was found to be fastened with light adhesions to a large omental mass which lay just below the brim of the pelvis on the right side. After being freed, the appendix was removed in the usual manner. Further exploration revealed a loop of lower ileum, approximately 3 feet from the ileocecal valve, enclosed in the omental mass. When the omentum was separated, a pouchlike structure was found springing from the intestine, and slightly nearer the tip than the base of the pouch was a small perforation through which a stiff, slender sharp-pointed foreign body protruded. Some pus and intestinal contents were present in the omental mass. The mesentery was very edematous and contained a group of greatly enlarged glands. The loop of ileum which had been encased in omentum was cyanotic, lusterless, and apparently hopelessly damaged by infection and constriction. Accordingly, about 6 inches of damaged bowel bearing the perforated, pouchlike structure were resected, and end-to-end anastomosis was performed. Exploration revealed no other diverticulum in the small intestine. The incision was then closed in layers without drainage.

Postoperative History.—The first twenty-four hours following operation were normal, but on the second day the abdomen became markedly distended and tender. The pulse was rapid, the temperature elevated, and incessant vomiting developed. The wound was reopened, February 13, at which time a general peritonitis was well established. The intestinal loops were distended, dull red and lusterless. The intestinal wall immediately above and below the site of resection showed some small gangrenous areas, the mesentery showed some thrombosis, and there was some leakage at the line of anastomosis. Several inches of damaged intestine were fastened outside the abdominal cavity (to be opened a few hours later). Drains were placed, and the wound closed loosely. From this time the symptoms of general peritonitis increased steadily in severity. The patient succumbed to this condition, February 17.

Above, hardened specimen with glass rod in lumen of intestine and fish-bone projecting from perforation in diverticulum: below, opposite side of specimen after removal of the half of diverticulum nearest the camera.

Examination of Specimen.—The specimen consisted of a 6-inch section of lower ileum, from which a pouchlike diverticulum sprang, about midway between the mesenteric attachment and the free border. The lumen of the diverticulum was continuous with the lumen of the intestine, but was somewhat less in diameter. The length of the pouch was 3.5 cm., and it ended in a globular extremity. The structure of the wall of the diverticulum was identical with that of the adjacent ileum, and the layers of intestine and diverticulum were directly continuous. Lying within the lumen of the diverticulum was a slender fish-bone, one end of which was firmly impacted in the wall, while the other sharply pointed extremity protruded through a perforation located about halfway between the base and tip.

Microscopic examination of sections from the diverticulum revealed normal intestinal structure modified by inflammatory changes.

The diagnosis was Meckel's diverticulum, with acute perforation due to impacted fish bone.

COMMENT

Through several excellent clinical articles—those of Richter [1] and McDonald [2] being especially commendable—Meckel's diverticulum has become well recognized as a cause of various surgical lesions. It may cause intestinal obstruction, intussusception and volvulus; it harbors foreign bodies as does the appendix, and may be the seat of acute inflammation and perforation. Its pathology is closely analogous to that of the appendix, and its symptomatology is practically the same. Gebele [3] collected the records of four cases of simultaneous acute diverticulitis and acute appendicitis, while Pearce [4] has added the report

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1. Richter, H. M.: Vitelline Duct Malformations, Surg., Gynec. & Obst. 2: 668, 1906.
2. McDonald, A. L.: Meckel's Diverticulum as a Cause of Surgical Lesions, Journal-Lancet 38: 259 (May 1) 1918.
3. Gebele: Zur Kasuistik der Entzündung des Meckelschen Divertikels, München. med. Wchnschr. 55: 1236, 1908.
4. Pearce, W. F.: Perforation of Meckel's Diverticulum and Accompanying Appendicitis, U. S. Naval M. Bull. 13: 546 (July) 1919.

of a case of acute appendicitis with simultaneous acute perforation of Meckel's diverticulum.

Stern[5] collected records of fifteen cases of acute perforation in 1917, and added two of his own; his list, however, is incomplete and comprises only a fraction of the total number of cases reported. Among the foreign bodies found in Meckel's diverticulum are coproliths, apple seeds, cherry stones, needle, Murphy button (reported by Peck[6]), fish bones, orange peel, ascarides and threadworms. These foreign bodies are usually found incidentally, and are seldom directly responsible for the perforation. We have found reference to only two other cases of perforation due to fish bones.

Aside from mere academic interest in this unusually rare case, we may deduce the practical lesson that if at operation the appendix does not seem sufficiently involved to account for the severity of the symptoms, then Meckel's diverticulum should be borne in mind in searching for the seat of trouble. We incline also to the belief that had we in this particular case instituted early enterostomy and abdominal drainage instead of primary resection, we might have secured a more happy result.

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UTERINE RUPTURE AT TERM AFTER PITUITARY EXTRACT

COMPLICATED BY PREMATURE SEPARATION OF THE PLACENTA *

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Uterine rupture is one of the most serious complications occurring during pregnancy. It is fortunate that the condition is a rare accident, since the emergency is followed by such high fetal and maternal mortality. Individual reports as to the frequency of the complication vary from one in 250 cases (Tauffer) to one in 6,100 cases (Leopold[1]). Statistics from the Berlin Frauenklinik (Koblanc[2]) give a frequency of one in every 462 cases; New York Lying-In Hospital (Lobenstine), seventy five in 60,000 cases, or one in 800; Moscow Maternity (Ivanoff, 1877-1901) one in every 956 cases, or 124 cases in a series of 118,581 confinements. Freund,[3] collecting statistics of seventeen investigators, reported a frequency of one in every 2,114 cases; in the Royal Maternity Charity in London for the years 1827-1856, eight cases in a series of 48,996 pregnancies, or one in 6,150 cases. The statistics with few exceptions are taken from hospital reports and do not show the true frequency, since it often occurs that the patient succumbs at once at home, or else survives the immediate shock of an incomplete rupture to die later when the delayed death is incorrectly attributed to peritonitis or some other condition.

Rupture of the uterus may be complete or incomplete, and may occur at any time during pregnancy or labor. Brandt states that it occurs eight times more frequently in multiparas than in primiparas. Spontaneous rupture during early pregnancy is one of the rarest accidents. Baisch,[4] in 1903, collected eighteen instances of rupture during pregnancy from scar, trauma, overdistention, or diseases of the chorion. Incarceration and placenta praevia may be determining factors, as illustrated in Arnold Lea's cases in which rupture occurred spontaneously at six months and seven and a half months, respectively. During the puerperium, a dissecting metritis with sloughing may terminate in rupture. Yet the great majority of cases rupture during labor and may either be spontaneous or follow trauma. The predisposing causes are numerous, and much stress is laid on the degenerative changes or weakening of the uterine musculature resulting from tumor growths, overdistention, and the scars from myomectomies, perforations and cesarean section. Frequently, however, microscopic evidence of any degeneration of the myometrium is wanting. Becker has reported an interesting case of repeated spontaneous rupture, and has collected twenty-seven similar cases from the literature. Within recent time the profession has been aroused by the many cases which occur in pregnancies following cesarean section. As early as 1886, Krukenberg[5] stated that rupture occurred in 50 per cent. of such cases; and even in 1914, Rongy[6] concluded that 3 per cent. of these women will have a ruptured scar with a 50 per cent. mortality. Prolonged labor following a disproportion between passages and passengers with undue thinning of the lower uterine segment predisposes to rupture. Among the many exciting causes we include uterine manipulation and the untimely use of oxytocics. My purpose in this paper is to report a case of uterine rupture occurring after the use of a small dose of pituitary extract.

Dale,[7] in 1906, had noticed that pituitary extract caused rhythmic contraction of the nonpregnant uterus. The extract was introduced in obstetrics in 1909 by Bell of the Royal Infirmary of Liverpool to overcome uterine inertia and check the bleeding of placenta praevia and of cesarean section; also by Foges and Hochstaetter of Vienna in the same year. These three investigators began the use of the preparation soon after the announcement of Frankl-Hochwart and Froelich that pituitary extract had a marked stimulating effect on the uterus of a pregnant animal.

Like all powerful physiologic principles that have been introduced in therapeutics, it was enthusiastically accepted as a valuable addition to the obstetric armamentarium. Reports began to appear illustrating its widespread acceptance, before its value, limitation and dosage were determined clinically. The dictum of the manufacturers of the product that "the drug was remarkably free from danger even when given in enormous doses" was accepted. Thus, Edgar,[8] in 1913, advocated its employment with an incompletely dilated cervix for uterine inertia in doses of from 0.1 to 0.4 gm. Gousew,[9] in 1913, after using the extract in forty-eight cases, declared that "irregular pelves not

5. Stern, K.: Ueber Perforation des Meckelschen Divertikels, Deutsch. Ztschr. f. Chir. 111: 343, 1917.
6. Peck, C. H.: Murphy Button Retained for Three Years in Meckel's Diverticulum, Ann. Surg. 69: 134, 1909.

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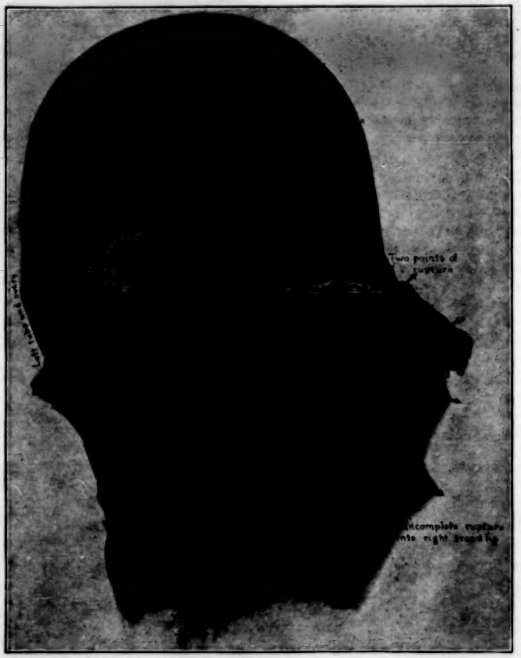
1. Leopold: Zur Behandlung der Uterusruptur, Arch. f. Gynäk. 36: 324, 1889.
2. Koblanc: Beitrag zur Lehre von der Uterusruptur, 1895.
3. Freund: Deutsch. med. Wchnschr., June 5, 1890; abstr. Am. J. Obst., 1890.
4. Baisch: Beitr. f. Geburtsh. u. Gynäk. (Hegar's), 1903, No. 7, p. 249.
5. Krukenberg: Ueber das Verhalten alter Kaiserschnittnarben bei nachfolgender Schwangerschaft, Arch. f. Gynäk. 28: 421, 1886.
6. Rongy: New York M. J. 99: 878, 1914.
7. Dale: J. Physiol. 34, No. 3, 1906.
8. Edgar: Pituitary Extract in Uterine Inertia, Am. J. Obst. 68: 20 (July) 1913.
9. Gousew: Med. Press & Circ., Feb. 5, 1913.

beyond a medium degree of contraction were no contraindication for its use even when the presenting part stood above the inlet." The employment of pituitary extract in contracted pelves to force the presenting part through the brim and pelvic cavity, and to stimulate labor pains in such malpositions as face and occiput posterior presentations, was not infrequent. It does not excite comment, therefore, that in the light of our knowledge of the powerful stimulating action of the drug, its indiscriminate use was followed by numerous complications. Thus, reports of fetal asphyxia, maternal collapse, tetanus uteri, premature separation of placenta and uterine rupture began to appear, the last resulting in a high mortality for mother and child.

McNeile [10] cites a case and collected statistics of fifteen cases of rupture after pituitary extract with thirteen maternal deaths; Wertenbaker [11] reported two additional cases of rupture, and numerous isolated reports of the same complication have appeared from time to time in the literature. The usual dosage was 0.1 gm., which was repeated when deemed necessary. On the strength of the many unfavorable reports following the administration of the drug in labor, the initial enthusiasm has been replaced by a more conservative notion as to its field of usefulness, and Norris [12] declares that the "innumerable reports of rapidly and safely terminated labors constitute the real danger of pituitrin." Most obstetricians today are keenly aware that in hypophysial extract we have a powerful therapeutic principle that can be employed in labor only when certain conditions are fulfilled in the presence of definite indications. Briefly stated, pituitary extract has no place in a normal labor, and its use should be limited to uterine inertia coming on, when the head is well engaged without disproportion between the child and the mother's pelvis, with complete dilatation of the cervix, and without undue thinning of the lower uterine segment. The consensus is that a 1 c.c. ampule equivalent to 0.1 gm. of the drug is too large a dose, and that one half or one third of this amount is within safe limits and may be repeated frequently.[13]



Incomplete and complete rupture in right uterine segment: normal implantation of placenta; premature detachment 5 cm. in extent.

The following case occurred in the obstetric department of the University of California Hospital:

REPORT OF CASE

Mrs. E. C., multipara, aged 44, 5 feet 7 inches in height, whose abdomen at term was not pendulous, and whose pelvis was normal, had had seven spontaneous miscarriages between one and three months, and eight full term pregnancies. She had never been curetted or had had any other gynecologic procedure. Her sixth labor was terminated by a midforceps operation for fetal indications. The fetus weighed 11 pounds. The seventh labor terminated spontaneously in ten hours, the child weighing 9 pounds. Our interest centers in her eighth full term pregnancy. When the patient was at term she had a sudden hemorrhage without pain. She could not be persuaded to enter the hospital, and refused to report for further examinations and was not seen again until midnight two weeks later, when she entered the hospital. She had been bleeding slightly for a week before entry, and had lost about 200 c.c. a few hours previous to admission. Examination revealed a soft abdomen, left occipitoanterior position, with a floating head. The cervix was undilated, and there were no signs of hemorrhage. The uterus was irritable, and contracted irregularly. One hour after entrance, the membranes ruptured spontaneously. Five hours later, weak pains began. The fetal heart was not heard at any time during the labor. At 9 a. m. the cervix was completely dilated; the head was well fixed. Because of the good condition of the mother, the absence of fetal heart sounds, and the cessation of all signs of hemorrhage, there was no indication to deliver the patient. One-third c.c. of pituitary extract (pituitrin, B. W. & Co.) was given intramuscularly, and the pains, which had been irregular, became more frequent and stronger. For one and a half hours the advance of the head was slow but steady, and then the pains became very weak and infrequent. The patient's condition at this time was good. With the head at the level of the spines, one-third c.c. of pituitary extract was repeated. Contractions began immediately, but were not

10. McNeile, L. G.: Rupture of Uterus at Term, Am. J. Obst. 74: 432 (Sept.) 1916.
11. Wertenbaker, William: Spontaneous Rupture of Uterus Following Administration of Pituitary Solution, J. A. M. A. 68: 1612 (June 2) 1917.
12. Norris, R. C.: Use and Abuse of Pituitrin in Obstetrics, Am. J. Obst. 71: 741 (May) 1915

13. In addition to the references already given, the following will be found of interest:
Brodhead: Spontaneous Rupture of Uterus During Labor, Tr. New York Obst. Soc. 17: 151 (Nov. 9) 1909.
Davis: Review of Literature and Case Reports on Uterine Rupture, Surg., Gynec. & Obst., July, 1913.

tetanic, yet in a few minutes the patient complained of air hunger, went into extreme shock, and died within a few minutes after the administration of the drug.

At necropsy when the abdomen was opened, there was considerable free blood in the pelvis. There had been retroperitoneal bleeding, which had started in the right broad ligament and had extended along the vertebral column up to the lumbar region. The fundus of the uterus was intact, but the entire lower uterine segment to the right of the midline posteriorly was so thinned that only the peritoneum remained, and the body of the child could be seen through this layer. Here there were two slitlike ruptures of the peritoneum about 4 cm. long.

When the uterus was opened, the placenta was found attached to the fundus, but had separated over an area about 5 cm. in diameter. This condition explained the bleeding during pregnancy. An incomplete rupture was present on the right side, extending into the broad ligament through the uterine vessels. The child was in the left occipito-anterior position, weighed 10 pounds, and its palms and soles showed beginning maceration.

Microscopic examination revealed the typical invasion of the myometrium by blood cells at the site of rupture, but no degeneration of the uterine musculature in the region of the placenta or elsewhere.

COMMENT

There were no predisposing causes of rupture, that is, no cicatrix from previous operative procedures or sepsis, nor prolonged labor, the duration from first pain to time of rupture being less than six hours. Before the necropsy, it had been suggested that the premature separation of the placenta might have led to a weakening of the uterine walls by a diffuse hemorrhagic infiltration of the muscle fibers, but this was not confirmed at postmortem or by subsequent microscopic examination. Moreover, the site of rupture in the lower segment was remote from the placental site, namely, the fundus. Pituitary extract employed in a conservative manner was administered in the presence of well established indications and in doses well within the limits of safety, with disastrous results.

I think that this report should serve to emphasize that:

1. There is danger in the indiscriminate use of hypophysial extract in labor, especially in the doses usually given, namely, 1 c.c. ampules.

2. Even when employed for the strictest indications and in small doses, complications may ensue so rapidly that they cannot be met adequately even in well equipped hospitals.

THE TECHNIC OF NERVE SUTURE

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In a previous paper,[1] brief consideration of the surgical principles of peripheral nerve injuries as well as a few points of technic were discussed. The importance of the latter would seem to warrant further presentation in greater detail than was possible in the scope of the former article. On the utmost consideration of minute points of technic, more exacting perhaps than in almost any other field of operation, may depend,

Fig. 1.—Lines of incision for exposure of the musculospiral nerve: *A*, exposure of the upper and middle thirds. The incision begins three finger breadths below the posterior angle of the acromion and is carried directly downward in the long axis of the arm to about the level of the insertion of the deltoid; it then turns abruptly outward to a point about 1 cm. dorsal to the insertion of the deltoid and thence continues directly downward approximately 6 cm. In the middle posterior part, the skin is widely undermined so as to bring in view more of the long head of the triceps. In the upper angle the outer and long heads of the triceps are separated; below, the outer head is split in the direction of its fibers. *B*, exposure of the middle and lower thirds. The incision begins at about the level of the insertion of the deltoid and on a plane slightly posterior. It is carried directly downward in the long axis of the arm from about 6 to 8 cm. and then passes abruptly anterior to the cleft between the brachialis anticus and the longitudinal fibers of the supinator longus. Both lines are perpendicular except in the lowermost part, whence the line curves slightly anterior into the antecubital fossa. In the upper part of the wound the outer head of the triceps is split in the direction of its fibers, thus exposing the nerve; the nerve is then exposed in the lower angle and traced upward. The outer head of the triceps at this point is tunneled under, and retracted with a band of gauze. Thus the entire nerve from its middle third to its termination in the antecubital fossa is exposed without permanent damage to any of the muscles.

Fig. 2.—The musculospiral nerve has been exposed in its middle and lower thirds by the incisions outlined in Figure 1 (the nerve has been somewhat enlarged out of proportion). *A*, the long and lateral heads of the triceps have been separated, exposing the musculospiral nerve; a piece of gauze is shown passing beneath the lateral head. *B*, the nerve has been exposed in the lower third; the lateral head of the triceps is shown tunneled under and retracted by means of a piece of gauze; the gauze retractor stops the hemorrhage from the muscle and serves as an excellent retractor. *C*, the nerve has been mobilized in both its middle and lower thirds and has been drawn into the anterior part of the wound. The nerve was caught in dense scar; the point of constriction may be noticed; muscular branches are seen which have been freed but carefully safeguarded.

in large measure, the ultimate results of peripheral nerve surgery.

POSITION OF THE PATIENT

Sheets should be placed so as to permit free movement of the extremity. This is necessary in some cases in efforts to move the limb in order to approximate the nerve ends and also to enable the surgeon to alter the

1. Stookey, Byron: Surgical Considerations of Peripheral Nerve Injuries, Surg., Gynec. & Obst. 27:362 (Oct.) 1918.

incision and exposure. As a practical point it will be found helpful to cover the foot and lower limb, not involved in the operative field, with sterile stockinet, and also the forearm in operations on the upper extremity. The hand should be covered when not to be included in the operation with a tight fitting rubber or cotton glove. Both of these coverings fit snugly, permit of accurate observation of individual muscular movements and palpation of individual tendons during the electrical examination, and also admit of free movements of the extremity without deranging the draping and without loss of time.

Fig. 3.—Exposure of the posterior interosseus nerve: *A*, the brachioradialis and extensor carpi radialis longus and brevis are retracted laterally; the extensor communis digitorum, mesially, exposing beneath the supinator brevis. The fibers of the supinator brevis are separated by blunt dissection in the direction of their course. In this manner the posterior interosseus nerve is readily identified. The forceps are shown passed beneath it. In most incisions an attempt is made to find the nerve at once by cutting through the supinator brevis parallel to the nerve. By so doing, unless the incision is directly over the nerve, frequently most hard to gage, difficulty is encountered in finding the nerve. However, by first splitting the fibers of the supinator longus, which run at right angles to the nerve, the latter is almost instantly found. *B*, the nerve having been identified as described above, the fibers of the supinator brevis are cut following the course of the nerve. The muscle is retracted and the nerve freely exposed to the point at which it breaks off.

MANAGEMENT OF OPERATIVE FIELD

By beginning the incision below and extending it upward, much of the troublesome venous bleeding, due to veins being cut successively as the incision is increased, may be avoided. When possible, the superficial scar should be excised. The skin edges should be well undermined so as to include the fatty fascial layer and to bring the fat with the skin edges into the new line of closure. Unless this is done, the line of union will stretch and a broad scar result. The flaps should be prepared for closure before searching for the nerve, all bleeding points tied, and the undermined edges packed with gauze after making certain that the proper line of closure has been insured. Unless this is done before nerve suture is accomplished, the extra maneuvering, coincident with preparation of the flaps, may derange the delicate line of nerve sutures.

When the deep scar is extensive, it is best to identify the nerve both above and below in normal areas, selecting, if possible, such points within the field as offer anatomic guides to the nerve in question; for example, the ulnar nerve in the ulnar groove behind the elbow, or its relation to the flexor carpi ulnaris tendon in the forearm, or the median nerve just under the mesial border of the biceps muscle, etc.

In following the nerve from above down and from below up, care must be taken to safeguard the delicate branches to adjacent muscles. This factor, together with the close proximity to large vessels, compels the neurosurgeon to advance slowly and with extreme caution. The nerve may be retracted conveniently by passing moist tapes, about 1 cm. wide, around the nerve, beginning on the side on which there are either large vessels or important branches, so as to avoid including them. The ends of the tapes are clamped with artery forceps, the weight of which may suffice to hold the nerve in any desired position, without injury to the nerve.

While dissecting through the scar, the knife should be changed frequently so as to have at all times one that is sharp. The scar is often penetrated with stray neuraxes which seem to give to nerve scar a denser and harder consistency than is usually found, owing, possibly, to the presence of neurokeratin.

When feasible, the deep scar should be excised. Frequently this is not possible. Instead, after the nerve has been freed, the scar may be infolded on itself and sutured. In this manner a smooth bed may be made, new scar formation avoided and troublesome scar hemorrhage circumvented. When a smooth bed for the nerve cannot thus be made, either a small part of a muscle belly (not a cut and raw muscle surface, for this only increases scar formation) may be sutured so as to form, by its fascial covering, a smooth surface for the nerve; or a fatty flap may be passed around the nerve or only under it. A free transplant will tend to form additional scar and should be avoided. Care should be taken to suture the fatty flap to adjacent

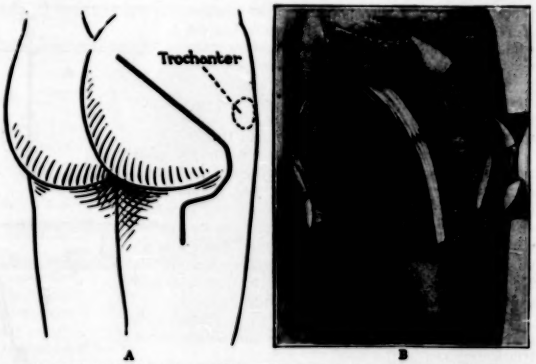

Fig. 4.—Incision and exposure of the sciatic nerve in its upper third: *A*, question mark skin incision. It begins above at approximately the level of the posterior inferior spine, extends obliquely downward and outward, about three finger breadths mesial and inferior to the great trochanter. It then curves over the gluteal fold toward the midline of the thigh posteriorly, from which point it may be continued any distance down the thigh. The skin is widely undermined until the insertion of the gluteus maximus insertion is exposed. *B*, exposure of the sciatic nerve from the lower border of the pyriformis to its entrance into the thigh. The gluteus maximus muscle is split in the direction of its fibers, by blunt dissection down to its insertion into the gluteal ridge. The insertion is then cut transversely across, about 2 cm. from the bone, so as to admit of reuture. The whole muscle is then reflected upward and mesially. If the incision is rightly placed, the blood vessels are also reflected upward, consequently with very little attendant bleeding. The nerve may be followed any distance into the thigh by direct prolongation downward of the exposure.

tissues on both sides of the nerve in order that constriction about the nerve may be prevented. Generally speaking, if the line of nerve suture has been made so as to obtain epineural approximation, no further protection of the nerve trunk is necessary.

Fig. 5.—Suture of the sciatic nerve and the nerve to the hamstrings. The external and internal divisions have been separated and the scar removed, after which the ends were brought together. The widely separated ends of the small nerve to the hamstrings have been found in the scar, freed and sutured. The upper inset shows the level of the incision; the lower inset, the tissue removed from the external and internal popliteal nerves.

Owing to the length of most nerve operations, the field should be protected more than is usual in shorter operations. For this purpose, moist cotton pads about 6 by 8 inches may be used. They are carefully placed so as to lie smooth and cover all of the field except in the direct line of the nerve. Being wet they stay in place, are smooth, and thereby facilitate the handling of the more delicate and fine threads used in nerve surgery. The threads are easily picked off the cotton, they stand out in contrast against the white background, and they remain in place when placed at any given point on the cotton. Furthermore, at the end of the operation the underlying tissues, as a result of being covered constantly with moist cotton, are not traumatized or dried, and appear as fresh as when first incised. When such pads are not used, the threads are often hard to find in the tissues and may become more or less adherent to them.

Constant irrigation is maintained with salt solution, particularly when the nerve ends are cut and during the time they are being sutured. This helps to arrest oozing from the scar tissue and bleeding from the nerve ends, and avoids trauma connected with sponging. If sponges are used, small bits of moist cotton are placed over the nerve ends. If the bleeding is more profuse, bits of torn muscle held over the bleeding points will be found useful.

The nerve being freed, the surgeon should palpate the parts involved as well as the whole nerve trunk exposed in the field.

Operative electrodes are then applied and each stimulus carefully noted by inspection and palpation. Occasionally responses may be appreciated by palpation which might otherwise have passed unnoticed. It must be remembered that even though a negative response results, it cannot always be interpreted to mean that neuraxes have not penetrated the scar and passed into the distal stump. Although having passed the scar, they may not have reached their ultimate destination within the muscle; or, having gained the muscle, they may not yet have formed the motor end plates. Hence a negative response cannot always be held to imply failure in downgrowth. The whole clinical ensemble as well as the anatomic field must be taken into consideration.

SPECIAL INCISIONS

For musculospiral nerve injuries in the upper and middle thirds, the position and incision described by Stookey and Guild [2] will be found to facilitate exposure and will also be found to be physiologically economical, in that no muscles are cut transversely, but they are split in the direction of their fibers.

For exposure of the middle and upper thirds, the arm should be placed perpendicular and at right angles to the body, with the forearm flexed over the chest, resting on a folded pillow and held in position by an assistant.

The landmarks for the skin incisions are: above, the posterior angle of the acromion; and below, the tip of the olecranon. The incision begins three finger breadths below the acromion, and continues downward to about the level of the insertion of the deltoid; thence it turns somewhat abruptly outward to a point about 1 cm. dorsal to the insertion of the deltoid, and continues directly downward approximately 6 cm. In the middle posterior part of the incision the skin edges are widely undermined.

In the upper angle of the wound, the posterior border of the deltoid and the long and outer heads of the triceps can be identified. The two heads of the

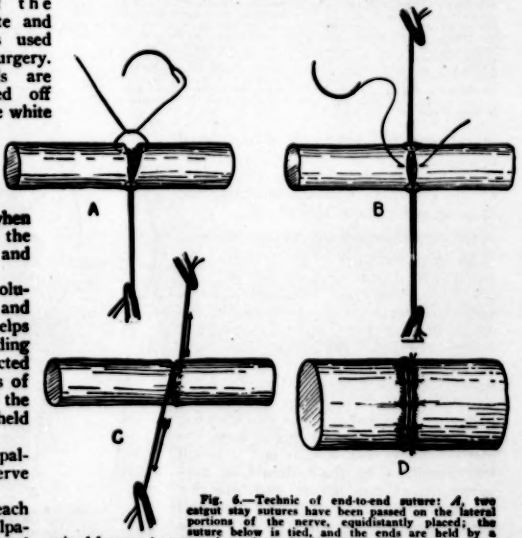

Fig. 6.—Technic of end-to-end suture: *A*, two catgut stay sutures have been passed on the lateral portions of the nerve, equidistantly placed; the suture below is tied, and the ends are held by a pair of forceps; the suture above shows the direction and depth of the bite; the suture is rather deep, passing between the funiculi, becoming, really an epineural, perineural, epineural suture; this suture is tied in like manner and clamped; these two sutures bring the deeper parts of the nerve together, prevent hemorrhage, and serve as a means of fixation of the nerve. *B*, the two stay sutures are shown in place and the nerve held in position while the fine silk epineural sutures are passed; sufficient sutures are used to insure epineural approximation; the sutures are placed so as to evert the epineural edges when tied. *C*, the anterior part of the nerve having been sutured, the stay sutures are reversed, exposing the under surface for suture; this shows the obvious advantage of the two lateral stay sutures over the single suture. *D*, the suture is here shown completed, the knots tied on one side and the epineural edges everted, insuring smooth epineural contact within.

2. Stookey, Byron, and Guild, Stacy: A Method of Exposing the Musculospiral and Posterior Interosseus Nerves, Surg., Gynec. & Obst. 28:612 (June) 1919.

triceps are separated in their fascial plane, and the incision carried downward through the glistening aponeurosis, beneath which the nerve will be found. The nerve is now traced to the lower angle of the wound. At this point, the nerve will be found passing abruptly toward the anterior part of the arm. The triceps in the anterior part of the incision is now incised perpendicularly in the direction of its fibers. The intervening muscle belly can be tunneled under and a complete exposure of the nerve thus obtained from the lower border of the teres major to the junction of the lower and middle thirds, with essentially no permanent damage to any of the muscles.

Fig. 7.—Intraneural injection of salt solution; internal neurolysis after liberation of both divisions of the sciatic nerve. This patient showed return of function in seven weeks.

For exposure of the middle and lower thirds, the anterior incision described above is carried from the level of the insertion of the deltoid downward for from about 6 to 8 cm.; it then passes abruptly anterior to the cleft between the brachialis anticus and the longitudinal fibers of the supinator longus, and thence downward, more or less perpendicularly, curving slightly inward to the antecubital fossa. The usual incision for the lower third of the musculospiral nerve is not sufficiently perpendicular and is placed too far anterior, near the belly of the biceps.

For further details and for a description of the exposure of the posterior interosseus nerve, the reader is referred to the original article.

For exposure of the sciatic nerve in its upper third, the incision advocated by Klotz is modified so as to permit one to follow the nerve into the thigh without an additional incision.

The incision begins approximately at the lower inferior spine of the innominate and is carried obliquely downward and out to a point about three finger breadths mesial to the great trochanter, thence curving downward and inward over the gluteal fold to the median line of the thigh posteriorly. The incision is more or less the shape of a question mark. The lower and outer angle of the skin incision is undermined until in line with the attachment of the gluteus maximus. This attachment is freely exposed. The deep incision is now made parallel to the fibers of the gluteus maximus, separating them in the direction of their course, beginning above at the upper angle of the skin wound and carried directly downward to a point three finger breadths below the great trochanter and thence downward across the insertion of the gluteus muscle. The insertion is cut approximately 2 cm. from the bony attachment and the whole muscle reflected toward the median line. If the incision has been correctly placed, the main vessels are reflected upward on the muscle and little bleeding is encountered. The nerve is freely exposed from the lower border of the pyriformis to its entrance into the thigh. By means of this skin incision the nerve may be traced any distance farther down the thigh merely by a direct prolongation downward in the midline.

OPERATIONS AVAILABLE

Neurolysis, i. e., liberation of the nerve either with or without intraneural injection of salt solution under pressure so as to perform, as it were, an internal liberation; end-to-end suture, with or without transposition of the nerve; nerve transplantation, either fresh autogenous or homogenous grafts preserved on ice in petrolatum or liquid petrolatum, or nerves preserved in alcohol, are the operations of choice. Nerve crossing, partial or complete, may be of limited value in certain selected cases in which the anatomy may admit of utilizing adjacent nerves. Here obviously only motor nerves having related cortical centers should be employed.

Certain operations are mentioned in order that they may be avoided, since it has been shown that they are of no value and may actually do harm. Nerve flaps, so ardently advocated by Mackenzie of Portland, are worthless, as Huber[3] and I[4] have shown in experimental work and in a critical review of all cases. Huber has also shown that suture à distance offers no practical hope of regeneration. Hofmeister's lateral implantation is also to be avoided.

The value of tubulization has not yet been definitely determined, though Huber's elaborate experiments, nearly concluded, will no doubt admit of their evaluation. He has found that Cargile membrane treated in 95 per cent. and absolute alcohol persists in the tissues for five or six months and causes little or no local reaction, whereas the usual membrane is absorbed within two or three weeks. Huber's Cargile membrane may, therefore, have a particular field of usefulness, not only in nerve surgery, but wherever such membrane is used to prevent adhesions and where it is desired to have it remain longer in the tissues than is possible with any other.

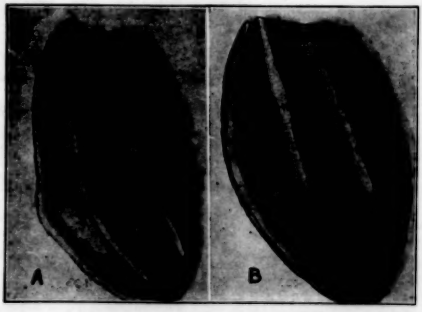

Fig. 8.—End-to-end suture of the median and ulnar nerves after transposition of the latter and the formation of a fatty bed for the nerves by means of a fat flap: *A*, the median and ulnar nerves are exposed; the ulnar has been transposed before severing its anatomic continuity in order to prevent axial rotation and prevent distortion of the nerve pattern. *B*, median and ulnar nerves have been sutured; fat flap has been passed beneath the nerves, covering over the scar tissue bed.

SUTURE MATERIALS

For stay sutures, 00 plain catgut is used. Fine silk offers the best material for grafts and epineural stitches

3. Huber, G. C.: A Study of Operative Treatment for Loss of Nerve Substance in Peripheral Nerves, J. Morphol. 2: 1895; Transplantation of Peripheral Nerves, Arch. Neurol. & Psychiat. 2: 466 (Oct.) 1919.
4. Stookey, Byron: The Futility of Bridging Nerve Defects by Means of Nerve Flaps, Surg., Gynec. & Obst. 29: 287 (Sept.) 1919.

in end-to-end suture. The silk should be very fine, preferably Corticelli AAA, which contains three strands. These are untwisted and separated, waxed and passed on fine curved or straight needles. They are boiled at the time of operation and again waxed with sterile wax, after which they are ready for use. Silk thus treated has a certain amount of stiffness and lends itself readily to the delicate tying with forceps so essential to accurate approximation. Further, the silk passes through the small nerve grafts with greater ease and is finer than other forms of silk available. Instead of waxed sutures, arterial silk dipped in liquid petrolatum just before using will be found satisfactory.

All nerve sutures should be tied very carefully with forceps. On the manner of tying and the degree of tension may depend the accurate approximation of the epineurium and the end-to-end apposition of the nerve grafts.

TECHNIC OF END-TO-END SUTURE

A 00 plain catgut suture is passed on each side of the nerve, equidistantly placed, taking a deeper bite than the epineurium. While this suture passes somewhat within the nerve, it really becomes an epineural, perineural and epineural suture; for, if a smooth needle is used, the funiculi are pushed aside and the suture then lies between the funiculi in the perineural connective tissue and hence does very little harm to the nerve. By these sutures the nerve in its deeper parts is brought together, hemorrhage between the nerve ends is avoided, thereby diminishing the amount of scar between the nerve ends, and tension is taken off the finer epineural sutures. They may also serve to prevent axial rotation, particularly if they are placed before the excision of the intervening nerve scar is completed. These sutures are tied, leaving the ends about 3 inches long, to which artery forceps are clamped. They then serve to fix the nerve and facilitate in placing the fine epineural sutures.

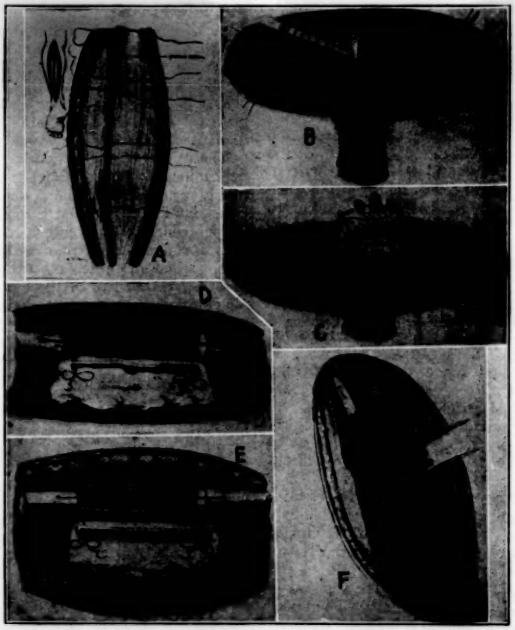

Fig. 9.—Technic of nerve transplant: *A*, cutaneous nerve on dorsum of leg is laid bare; the nerve segments are measured and the sutures are passed at precise intervals. *B*, a moist cotton pad about 4 inches square, smoothly folded, is placed over a nerve segment so as to include the sutures; by slight maneuvering with forceps, the sutures and the nerve transplant become adherent to the pad and may be lifted up with the pad; the transplant is not touched. *C*, the cotton pad is shown on which the nerve transplant is lifted together with the sutures, neatly curled, so as to avoid any entanglement; the transplant may then be carried to the operative field without handling and without danger of the threads tearing out, or the graft falling. *D*, the cotton pad is folded back parallel with the nerve segment and placed in the field, carrying the transplant in position for suture; the segment may be flooded off the pad by a small stream of salt solution. *E*, the first segment is shown sutured in place with the second segment ready for suture; after all grafts are in place the stay suture may be removed; it is used merely to facilitate suture of the delicate grafts. *F*, multiple autogenous grafts are shown sutured in place; in this instance the distance bridged was 12 cm.

The silk epineural sutures are then passed on the anterior surface between the two stay sutures. With very fine tooth forceps the *epineurium only* is grasped and each suture accurately placed and then tied with forceps so that the epineural edge is everted. If the sutures have been properly placed, eversion of the epineurium is easily accomplished and gives a smooth line of union on its inner surface. Each suture is cut as it is tied, sufficient sutures being used to insure complete approximation—the number naturally depending on the size of the nerve.

By reversing the two catgut stay sutures, i. e., by passing the one over and the other beneath, the undersurface is readily brought into view and sutured in like manner.

The advantages of the two stay sutures over a single stay are obvious. If a single stay is used, the nerve rotates in remaining sutures, and the nerve is not so easily fixed or its under surface brought into view. If the single stay suture is tied the lateral edges of the nerve become everted, making epineural approximation difficult.

In the presence of a small nerve defect, end-to-end suture may be accomplished by slight stretching, by transposition and by altering the position of the limb. Nerve stretching should be done with considerable caution, since the distance gained can be accomplished only by taking up the normal laxity of the nerve trunk in its contiguous parts, or by multiple tears, either within the nerve trunk or from the spinal cord. When excessive stretching is done, both are accomplished, not only but also, karyolysis of the anterior horn cells ensues, with subsequent degeneration of the neuraxes within the central stump, an unfortunate result to be studiously avoided.

Stretching should be done only up to the point of taking up the normal laxity of the nerve within its bed.

I have seen two cases in which overstretching was done in a two-stage operation, in which a considerable

interval intervened between the first and second operation. The nerve in both instances showed at the second operation marked sclerosis and internal hemorrhage throughout the nerve trunk, with subsequent scar formation as far as the nerve could be palpated. Normal nerve cross areas could not be obtained either central or distal, owing to scar, which was not present at the first operation.

Transposition of the nerve may permit defects to be overcome which might otherwise prevent end-to-end suture. A nerve may be freed and raised out of its bed over quite a distance without interfering with its nutrition. In transposing, care must be taken to safeguard nerve twigs and prevent the formation of sharp angles or kinks.

Huber [3] has shown experimentally the value of the multiple autogenous and homogenous grafts, as well as those preserved in alcohol and on ice, in petrolatum and liquid petrolatum. A few cases of successful grafts have been reported in France. The technic of the graft is such that unless done by those having considerable practice it is conceivable that the results may be disappointing. The utmost regard for minute points of technic is essential. Success depends in a measure on the accuracy with which the grafts are brought end on and in precise contact with the cross area of the central and distal stumps. If the sutures are not correctly placed, or if they are not tied properly, just sufficient tension being employed, the nerve ends are likely to be inverted. In place of the graft being end on, it may be turned so that its lateral surface lies against the central cross area. While neuraxes may penetrate, the probability of such penetration is greatly diminished by such faulty approximation. For these reasons, in estimating the ultimate value of the graft, the individual technic must be considered, for it plays a predominating rôle.

A sufficient number of grafts should be taken to cover the cross area of the central and distal stumps. Unless this is done, many central neuraxes, having no path down which they may grow, may become lost, though Huber has shown that a few are able to penetrate and grow down in the small connective tissue spaces between the nerve transplants. The aim of the surgeon should be to connect each funiculus with a graft. This may be accomplished by suturing each graft separately in the desired position. In this manner the central and distal connections may be established with a certain degree of precision. This is often not possible; nevertheless, it should be essayed. For the most accurate surgery, we must await more definite knowledge concerning the internal topography, such as Elsberg [5] and Riley have signaled they are doing.

TECHNIC OF THE GRAFT

When the nerve is freed from the scar tissue and the nerve ends successively incised until a satisfactory cross area is obtained and before the nerve continuity is completely severed, one or two stay sutures are passed at the proper level, so as to hold the nerve in alinement, prevent rotation, and help in fixation of the nerve ends during suture.

The distance to be bridged is accurately measured with a centimeter compass.

A skin nerve, such as the radialis or the cutaneus surae medialis on the dorsum of the leg, may be used. In order to save time, a second team may lay bare the nerve. Preferably a degenerate nerve should not be used such as one would find in the lower leg on the same side as a sciatic nerve injury. The sheath cells in such a nerve are no longer in the active stage; there may also be some increase in connective tissue, particularly if the injury to the parent nerve is of some standing. It is possible that whatever neurotropism there may exist would be diminished in such a nerve, as compared with a fresh transplant. However, this is of academic interest rather than of real importance. In view of the downgrowth of neuraxes in preserved specimens, one must question the value of the rôle imputed to neurotropism.

The nerve having been laid bare over the desired length, fine waxed silk sutures on curved or straight, smooth needles are passed in accordance with the distance to be bridged, as measured with the compass. A small margin is allowed for cutting the nerve segments.

The sutures are all passed in one direction, the nerve being held tense by small forceps either central or distal to the grafts. Under no circumstances should the *nerve segments* to be used in the graft be held by forceps.

The sutures are then curled carefully so as to prevent entanglement; the needles all on one side, and the free ends on the other.

The nerve segments are cut with sharp fine scissors or a thin knife, avoiding crushing the nerve ends.

Each segment is then picked up by covering it with a small, smooth, moist cotton pad. If the cotton pad is carefully placed over the nerve and sutures, they adhere to the moist cotton and each segment may thus be lifted from the wound and placed in the operative field.

By folding the cotton pad so that its free border is parallel to the transplant, the latter may be placed between the nerve ends so as to be in exact position for suture.

By means of the cotton pad the nerve is not handled, the threads do not become entangled, danger of pulling out the suture is eliminated, and the nerve may be manipulated into its proper position for suture with the least trauma. A small stream of salt solution will be found helpful in flooding the nerve off the cotton. During the process of suture, the nerve is irrigated with warm salt, thus creating a clear field and aiding in accurate funicular approximation of the graft. In this manner, each transplant is sutured separately, both distally and centrally, with whichever funiculus is desired. The sutures are tied with forceps and cut short.

The accuracy of the graft depends in a measure on the correct placing of the sutures, the exact amount of tension in tying, and the manipulation with the sutures during the process of tying.

471 Park Avenue.

5. Elsberg, C. A., and Wood, A. H.: Problems in the Diagnosis and Treatment of Injuries to the Peripheral Nerves, Arch. Neurol. & Psychiat. 2: 645 (Dec.) 1919.

Prevention of Normal Dissipation of Heat as Factor in the Pathology of Children.—A. Czerny expatiates on heat stagnation as an important element in the pathology of older children, the same as it has long been recognized in the case of infants. He states (*Therapie der Gegenwart*, January, 1919), that children used to overcrowding at home do not suffer from the heat stasis in school as much as children used to good hygienic conditions at home. The possibility of heat stasis must be borne in mind not only for well but for sick children as an element in the clinical picture, and the advantages of out-of-door living and sleeping should not be restricted to tuberculous children.

SPECIFIC NATURE OF THE HEMOLYTIC STREPTOCOCCUS OF SCARLET FEVER *

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CHICAGO

On account of the important part that hemolytic streptococci play in scarlet fever and its complications, various observers have undertaken to study the relation of these cocci to scarlet fever by means of immunity experiments.

Moser and von Pirquet [1] concluded that the streptococci from cases of scarlet fever were different from those in other diseases. They found that the serum from scarlet fever patients agglutinated scarlet fever streptococci in low dilutions, the serum from other children but rarely; that normal horse serum agglutinated streptococci from various sources, but only in low dilutions (from 1:4 to 1:64), while the serum of horses immunized with streptococci cultivated from the heart's blood of fatal cases of scarlet fever agglutinated the same streptococci in high dilutions (from 1:1,000 to 1:64,000). The same effects were produced on streptococci cultivated from the heart blood of cases of scarlet fever, which were not used in producing immunity (from 1:1,000 to 1:16,000), while streptococci from other diseases were agglutinated at only a little higher dilution than by normal horse serum (from 1:4 to 1:250), and the serum of horses immunized with the latter streptococci agglutinated streptococci from scarlet fever patients only in the same proportion as normal horse serum.

By means of immune serum, Meyer [2] differentiated streptococci of angina (scarlatinal, rheumatic, simple) from those of pyogenic infections, but found gradual differences in the reaction of the anginal streptococci which spoke against an identity among them.

The agglutinating action of serum from cases of scarlet fever on scarlatinal streptococci was studied also by Salge.[3] He found that those from scarlet fever were agglutinated by scarlatinal serum, but that it caused no agglutination of streptococci from other sources; however, he did not control his work by testing serum from other streptococcus diseases.

After repeating the experiments of Moser and von Pirquet, Aronson [4] concluded that in no case could he differentiate between streptococcus groups by the most careful agglutination.

Neufeld [5] also concluded that no specificity of streptococci isolated from scarlet fever could be shown by means of tests with immune rabbit serum.

Moser and von Pirquet [6] later showed that the serum of horses immunized with scarlet fever streptococci did not produce agglutination of all streptococci cultivated from scarlet fever blood.

Weaver [7] made an exhaustive study of agglutination of streptococci with human serum. He came to the conclusion that the agglutination of streptococci from cases of scarlet fever was in no way specific and could be of no value as a means of diagnosis. He found that some of the streptococci from scarlet fever were agglutinated by almost all scarlatinal serums, others only by some, and many not at all. Streptococci from scarlet fever were agglutinated also by serum from cases of lobar pneumonia and erysipelas at about the same dilutions as by scarlatinal serums, and the same was true with the few specimens of typhoid blood and puerperal fever serum examined. As the experiments were made before hemolytic and green-producing streptococci were differentiated, it is possible that some of Weaver's strains were not hemolytic and may even have been pneumococci.

Rossiwald and Schick [8] found that Moser's antistreptococcus serum (serum of horse immunized with scarlet fever streptococci) agglutinated many, but not all, strains of streptococci from scarlet fever patients. They isolated a streptococcus from a case of surgical scarlet fever, which was agglutinated by Moser's serum in high dilution. They concluded that the streptococci from scarlet fever that were not agglutinated by the immune horse serum belonged to a different group from those that were agglutinated.

Ruediger [9] immunized sheep with different strains of streptococci, and found that many strains of hemolytic streptococci from scarlet fever were agglutinated by the serum of the sheep immunized with a streptococcus isolated from a scarlet fever throat, but not by the serum of sheep immunized with a hemolytic streptococcus isolated from a phlegmon of the leg. Of the eleven strains obtained from scarlet fever patients, three were not agglutinated by the scarlet fever sheep serum. Two of these organisms had each been passed through more than fifteen rabbits; the third was obtained from the suppurating cervical glands of a very mild case of scarlet fever which had appeared at the end of the fourth week. He also obtained agglutination of hemolytic streptococci isolated from erysipelas and tonsillitis in as high dilutions of the serum as in some of the scarlet fever strains.

In my study [10] of the opsonic index in scarlet fever I found that the variations in the index for the scarlatinal hemolytic streptococcus even in mild cases indicated that practically from the first the scarlet fever patient is subject to a definite streptococcus infection. In the beginning of the attack the streptococco-opsonic index in the majority of cases was below normal; as the acute symptoms subsided the index rose above normal, to which it soon returned; definite local streptococcal complications were inaugurated by a depression in the streptococco-opsonic index, which rose again as improvement took place. These changes were specific for the hemolytic streptococcus, no changes occurring with staphylococci, pneumococci or *Streptococcus viridans*. Similar results were obtained by Banks.[11]

Recently Nakayama [12] studied agglutination of hemolytic streptococci with immune rabbit serum with considerable similarity in the results with various strains of streptococci from scarlet fever; but no distinct line could be drawn between streptococci obtained from the throat and from ordinary suppurative processes. His absorption experiments did not give decisive results; the agglutinins and opsonins did not always run parallel in the serum of the same rabbit, and it did not seem possible to classify streptococci by means of opsonins.

* From the John McCormick Institute for Infectious Diseases.

1. Moser and von Pirquet: Wien. klin. Wchnschr. **15**: 1086, 1902.
2. Meyer, F.: Deutsch. med. Wchnschr. **28**: 751, 1902.
3. Salge: München. med. Wchnschr. **49**: 1729, 1902; Zentralbl. f. Bakteriol., I, Ref. **32**: 643, 1903.
4. Aronson: Deutsch. med. Wchnschr. **29**: 439, 1903.
5. Neufeld: Ztschr. f. Hyg. u. Infektionskrankh. **44**: 161, 1903.
6. Moser and von Pirquet: Centralbl. f. Bakteriol. I, Orig. **34**: 560, 714, 1903.
7. Weaver: J. Infect. Dis. **1**: 91, 1904.
8. Rossiwald and Schick: Wien. klin. Wchnschr. **18**: 3, 1905.
9. Ruediger, G. F.: J. Infect. Dis. **2**: 755, 1906.
10. Tunnicliff, Ruth: J. Infect. Dis. **4**: 304, 1907.
11. Banks: J. Path. & Bakteriol. **12**: 113, 1908.
12. Nakayama: J. Infect. Dis. **24**: 489, 1919.

It has been found that the opsonin reaction may serve as a means by which green-producing streptococci may be reliably differentiated (poliomyelitis,[13] measles,[14] rubella,[14] influenza [15]). Therefore the experiments outlined below were made to study once more the question of the specificity of the hemolytic streptococcus in scarlet fever, especially in regard to opsonification, as agglutination of streptococci is uncertain.

A sheep was immunized with a hemolytic streptococcus, isolated from the throat of a severe acute case of scarlet fever. The sheep was inoculated intravenously weekly, at first with killed cultures, later with small numbers of living cocci. Opsonins were produced after the first injection, agglutinins after the sixth. The cocci were grown on goat blood agar twenty-four hours and suspended in physiologic sodium chlorid solution. Normal sheep leukocytes, collected in 0.2 per cent. sodium citrate solution and washed once in physiologic sodium chlorid solution, were used in the experiments. The serum, normal and immune, was heated for one-half hour at 56 C. to remove the thermolabile element, and then diluted to determine the point of opsonic extinction. The mixtures of serum, leukocytes and coccal suspension, equal parts, were incubated twenty-five minutes, smears stained with carbolthionin, fifty polymorphonuclear leukocytes counted, and the number of cells taking part in phagocytosis noted. Spontaneous agglutination of streptococci did not interfere with the opsonic determinations.

The agglutination experiments proved very troublesome. Plain neutral broth (Weaver [7]), calcium carbonate broth (Ruediger [9]), blood glucose broth (Hamilton and Havens [16]) and phosphate broth (Dochez, Avery and Lancefield [17]), all were found unsatisfactory on account of spontaneous clumping of the organisms. As I had previously observed that streptococci grow more diffusely in ascitic dextrose broth than in plain or dextrose broth alone, this medium was used. One part of ascitic fluid was added to four parts of 0.2 per cent. dextrose broth p_H 7.4. The cultures were incubated twenty-four hours, centrifuged, the supernatant fluid removed, and the organisms were washed once or twice with plain meat infusion broth p_H 7.8 and finally suspended in this medium. In the tests, the serum dilutions were made with plain broth, the dilutions running from 1:5 to 1:1,000, and an equal part of bacterial suspension was added to each tube of diluted serum, and the mixtures were incubated for one hour and fifteen minutes at 55 C., and then left at room temperature for three hours. A tube containing suspended cocci in broth but without serum and one with cocci in normal sheep serum diluted from 1:5 to 1:100 or higher were included in each agglutination test. As a rule the results were clear at the end of the incubation period. The immunizing streptococcus, however, was always included in each experiment to serve as a standard. Four strains were found to agglutinate spontaneously and therefore could not be tested.

The following hemolytic streptococci were used: 27 strains isolated early in the attack of scarlet fever, 2 before the appearance of the rash (throat 20, otitis media 1, mastoid 1, finger 2, empyema 2, gland 1); 9 from the throat and 2 from ears during convalescence; 1 from wound from possible case of scarlet fever; 3 from blood, cerebrospinal fluid and knee of suspected case of scarlet fever; 26 strains were isolated from cases which were not scarlatinal in origin—normal throats 5; influenza 5, empyema 2, sputum 2, lung 1; measles 2, throat, ear; erysipelas 3; diphtheria, 2; mastoid, 1; otitis media, 1; chronic rhinitis, 1; meningitis, 1; acute tonsillitis, 1; horse pneumonia, 1; acute sinusitis, 1; blood in lethargic encephalitis, 1.

All of these strains but one produced a wide zone of hemolysis (from 2 to 4 mm.) on goat blood agar plates, after twenty-four hours' incubation. The streptococcus that produced a narrow zone of hemolysis was isolated from the ear of a scarlet fever patient during the sixth week of the disease. The size of the colonies varied somewhat, but were generally small, round and smooth. The strains from erysipelas, influenza and lethargic encephalitis produced, as a rule, larger, flatter colonies than the others. With a few exceptions the streptococci fermented lactose and salicin, but not mannite or inulin, and hence would be classed as *Streptococcus pyogenes* (Holman [18]). Two scarlet fever strains, one from the finger and one from an empyema, fermented lactose and mannite but not inulin and salicin (*Streptococcus hemolyticus* one); one diphtheria streptococcus originally an anaerobe fermented salacin but not lactose, mannite or inulin (*Streptococcus equi*).

Of the hemolytic streptococci isolated from the throat and the complicating lesions of early cases of scarlet fever, all gave marked phagocytosis with the immune sheep serum except the two mannite fermenters, the point of opsonic extinction being from 1:30 to 1:1,500, 1:150 being the point at which phagocytosis ceased for the majority of the strains. The contrast between the specimens with normal and immune serum was very striking on account of there being little or no phagocytosis of these scarlatinal streptococci in normal heated sheep serum when first isolated.

Three scarlet fever streptococcus strains agglutinated spontaneously and could not be tested. One streptococcus from a gland, though opsonized, was not agglutinated by the immune sheep serum. The other twenty-three scarlet fever strains were all agglutinated by the immune serum at a dilution of from 1:50 to 1:2,000, 1:500 being the dilution at which the majority of the cocci ceased to agglutinate. Only an occasional strain agglutinated at 1:5 with normal sheep serum.

The hemolytic streptococcus from the finger and the one from empyema, both mannite fermenters, as well as the strains from otitis media of two scarlet fever cases in the fourth and sixth weeks, and from the wound, blood, cerebrospinal fluid and knee of two suspected cases of scarlet fever, were neither opsonized nor agglutinated by the immune sheep serum. The two mannite fermenters agglutinated spontaneously and could not be used for agglutination tests.

None of the hemolytic streptococci isolated from the throat late in scarlet fever, except in the instances to be noted, and none from sources other than scarlet fever, were opsonized by the immune sheep serum in dilutions higher than by normal serum; and none of these cultures were agglutinated by either normal or

13. Mathers, George, and Tunnicliff, Ruth: A Reaction of Immunity in Acute Poliomyelitis, J. A. M. A. **67**: 1935 (Dec. 23) 1916. Mathers, George, and Howell, K.: J. Infect. Dis. **21**: 292 (Sept.) 1917. Nuzum, J. W., and Willy, R. G.: Ibid. **22**: 258 (March) 1918. Davis, W. M.: Ibid. **24**: 176 (Feb.) 1919.
14. Tunnicliff, Ruth: J. Infect. Dis. **22**: 462 (May) 1918. Tunnicliff, Ruth, and Brown, M. W.: Ibid. **23**: 572 (Dec.) 1918.
15. Tunnicliff, Ruth: J. Infect. Dis., Ibid. **26**: 405 (May) 1920.
16. Hamilton, C. D., and Havens, L. C.: Hemolytic Streptococci, J. A. M. A. **72**: 272 (Jan. 25) 1919.
17. Dochez, A. R.; Avery, O. T., and Lancefield, R. C.: J. Exper. Med. **30**: 179 (Sept.) 1919.
18. Holman, W. L.: J. Med. Res. **34**: 377 (July) 1916.

immune serum. Here it may be said that one reason why the results of these experiments indicate a greater specificity than those of certain other observers is probably the heating of the serum, which destroys the labile factors that participate in the action of normal serum.

Hemolytic streptococci obtained from the throats of nine patients during convalescence from scarlet fever, one during the second, the others during the third and fourth weeks, were not agglutinated by the immune serum and not opsonized in higher dilutions than with normal serum. It is noteworthy that cultures of four of these patients had been taken previously and hemolytic streptococci obtained which reacted positively with the immune serum, but that during the third week the cultures of two of them gave only a few colonies of hemolytic streptococci, which in the one case tested did not react with the immune sheep serum. Cultures from both of these patients showed large numbers of hemolytic streptococci during the fourth week, which were opsonized and agglutinated in high dilutions with the immune serum. Neither patient complained of sore throat, but the tonsils were slightly redder than normal. From one patient hemolytic streptococci were isolated one week later, which were not opsonized or agglutinated by the immune serum. Further studies of scarlet fever patients along these lines must be made. The results so far indicate that the hemolytic streptococci isolated from the throat at the onset of the attack of scarlet fever are immunologically different from most of those obtained during convalescence, and that some of the hemolytic streptococci in complicating lesions may differ immunologically from the streptococci in the acute stage of scarlet fever. These results also suggest that immune sheep serum may be helpful in diagnosing suspected cases of scarlet fever and in determining the length of quarantine for patients with purulent discharges.

ABSORPTION EXPERIMENTS

Absorption experiments were made to determine whether the agglutinins and opsonins could be absorbed by the heterologous streptococci, from scarlet fever and from other sources, as thoroughly as by the immunizing coccus. Immune serum was therefore treated with the homologous and with two other hemolytic streptococci, one from a scarlatinal otitis, the other from erysipelas. The otitis streptococcus was opsonified and agglutinated by the untreated immune sheep serum. Killed centrifuged organisms were suspended in the immune serum, which then was incubated two hours and refrigerated for twenty-four hours, and finally centrifuged, the supernatant serum being removed. This process was repeated three times, when the serum was found no longer to opsonify or agglutinate the immunizing coccus. Absorption with the two scarlet fever streptococcus strains removed the opsonins and agglutinins for the nineteen scarlet fever streptococcus strains tested, but absorption with the erysipelas streptococcus failed to remove the opsonins and agglutinins for the scarlet fever streptococci. These results indicate clearly that the hemolytic streptococci that prevail in the throat in the acute stages of scarlet fever form a group immunologically closely related and apparently peculiar for scarlet fever.

CONCLUSIONS

The serum of sheep immunized with hemolytic streptococci from the throat in the acute stage of scarlet fever has been found to contain opsonins and agglutinins for the hemolytic streptococci that prevail in the throat and complicating lesions early in this disease, but not for hemolytic streptococci from other sources, such as erysipelas, mastoiditis, measles, influenza, diphtheria and the normal throat. The results of absorption tests also indicate that the hemolytic streptococcus from scarlet fever forms a distinct group, scarlatinal streptococci removing the opsonins and agglutinins for these cocci, while absorption with a hemolytic streptococcus from erysipelas has no such effect.

These results suggest that the hemolytic streptococci of scarlet fever form a distinct group from the immunologic point of view. Possibly the serum produced with this scarlatinal streptococcus group may prove of use in the diagnosis and treatment of scarlet fever, and eventually, perhaps, in determining the length of infectivity.

Clinical Notes, Suggestions, and New Instruments

A CASE OF UNUSUAL URINARY CALCULI

AUGUSTUS HARRIS, M.D., BROOKLYN

The stones shown in the accompanying illustration were removed from the bladder of a patient suffering from prostatism, and their unusual form prompted me to present the case.

Urinary calculi, about half their actual size.

REPORT OF CASE

A rather feeble man, aged 75, was admitted to the urologic service at the Kings County Hospital, Feb. 1, 1920, suffering with an attack of acute retention of urine. He stated that an ambulance surgeon from another hospital had tried for two hours to pass instruments into the bladder, without success.

On admission, the patient appeared weak and was suffering severe pain. The pulse was irregular and of poor volume. Two members of the house staff tried to catheterize but failed. There was moderate bleeding from the urethra, and apparently a false passage had been made. The prostate was markedly enlarged, smooth, and fairly hard. On account of the patient's general condition, an emergency suprapubic one-step drainage operation was immediately decided on.

Stovain spinal anesthesia was employed. I opened the bladder, and about 16 ounces of bloody urine were evacuated. On exploration, the bladder was found hypertrophied and trabeculated. No large pockets were discovered. Lying free on the floor of the bladder behind the prostate were five stones, four of which are depicted in the illustration. These were removed, and the bladder and tissues closed about the drainage tube in the usual manner.

The stones were light brown, smooth, and of light weight. They were shiny on the surface, as if varnished. The main body of each was round, and from it projected spines with smooth, rounded ends. They resembled rather closely a handful of jackstones, with which little girls play.

An analysis of one of the stones disclosed lamination on cross section. Microscopically, there were uric acid crystals and amorphous urates. Chemically, there was a mixture of uric acid, urates, xanthin and carbonates. The stones in the illustration are just about half their actual size. It would be interesting to know how these calculi took on this curious form.

The urine was alkaline in reaction.

306 Park Place.

PROCEEDINGS OF THE NEW ORLEANS SESSION

MINUTES OF THE SEVENTY-FIRST ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT NEW ORLEANS, APRIL 26-30, 1920

(*Continued from page 1328*)

MINUTES OF THE SECTIONS

SECTION ON PRACTICE OF MEDICINE

WEDNESDAY, APRIL 28—AFTERNOON

The section was called to order at 2 o'clock by the chairman, Dr. James S. McLester, Birmingham, Ala.

Dr. McLester read the chairman's address, entitled "Clearness in Medical Speech."

Dr. Henry S. Plummer, Rochester, Minn., read a paper on "The Clinical Interpretation of Basal Metabolic Rate Estimations." Discussed by Drs. Emil Goetsch, Brooklyn; Leonard G. Rowntree, Minneapolis; Nelson W. Janney, Santa Barbara, Calif., and H. S. Plummer, Rochester, Minn.

Dr. Frank Billings, Chicago, nominated for Honorary Fellowship Sir Humphry D. Rolleston, London, England. Seconded and carried.

Drs. Rollin T. Woodyatt and William D. Sansum, Chicago, presented a paper on "The Nature of Fever." Discussed by Drs. W. S. Thayer, Baltimore, Alexander Lambert, New York; L. G. Rowntree, Minneapolis; Francis M. Pottenger, Monrovia, Calif., and R. T. Woodyatt, Chicago.

Dr. George Dock, St. Louis, nominated for Honorary Fellowship Dr. Twaho Tsuchiya, Tokyo, Japan. Seconded and carried.

Dr. Stewart R. Roberts, Atlanta, Ga., read a paper on "Types and Treatment of Pellagra." Discussed by Drs. Marvin L. Graves, Galveston, Texas; Allen Eustis, New Orleans; Henry S. Plummer, Rochester, Minn.; George Dock, St. Louis; W. K. Sheddin, Columbia, Tenn., and S. R. Roberts, Atlanta, Ga.

Dr. Bryce W. Fontaine, Memphis, Tenn., read a paper on "The End-Results of Focal Infections." Discussed by Drs. Frank Billings, Chicago; Joseph H. Pratt, Boston; Frank B. Wynn, Indianapolis; W. S. Thayer, Baltimore; Leon L. Solomon, Louisville, Ky.; Carleton Dederer, Bay City, Mich., and B. W. Fontaine, Memphis, Tenn.

Dr. Charles F. Hoover, Cleveland, read a paper on "The Clinical Diagnosis of Obstruction of the Hepatic Veins." Discussed by Sir Humphry Rolleston, London, England; Dr. Frank B. Wynn, Indianapolis, and Dr. C. F. Hoover, Indianapolis.

Dr. William Gerry Morgan, Washington, D. C., read a paper on "Phlebectasis of the Diaphragmatic Area and of the Lower Thoracic and Upper Abdominal Regions." Discussed by Drs. J. Russell Verbrycke, Jr., Washington, D. C.; Charles F. Hoover, Cleveland; Louis J. Genella, New Orleans; Frank Billings, Chicago; William S. Thayer, Baltimore, and W. G. Morgan, Washington, D. C.

THURSDAY, APRIL 29—AFTERNOON

The section was called to order at 2 o'clock by the chairman.

Sir Humphry D. Rolleston, London, England, read a paper on "Changes in the Clinical Types of Disease." No discussion.

Dr. U. J. W. Peters, Birmingham, Ala., read a paper on "Abscess of the Lung." Discussed by Drs. Charles F. Hoover, Cleveland; O. M. Gilbert, Boulder, Colo.; C. J. Fishman, Oklahoma City; A. C. Eustis, New Orleans, and U. J. W. Peters, Birmingham, Ala.

Dr. George Dock, St. Louis, read a paper on "Oxycephaly: Its Occurrence in Negroes." Discussed by Dr. Stewart R. Roberts, Atlanta, Ga.

Drs. Howard F. West and Joseph H. Pratt, Boston, presented a paper on "Clinical Experience with a Standardized Dried Aqueous Extract of Digitalis." Discussed by Drs. G. Canby Robinson, Nashville, Tenn., and C. F. Wahrer, Fort Madison, Iowa.

Dr. John Peter Schneider, Minneapolis, read a paper on "A Study of the Bile Pigments in Pernicious Anemia." Discussed by Drs. Leonard G. Rowntree, Minneapolis; F. J. Hirschboeck, Duluth, Minn.; Llewellyn Sale, St. Louis, and F. P. Schneider, Minneapolis.

Dr. Douglas VanderHoof, Richmond, Va., read a paper on "Spondylitis and Abdominal Pain." Discussed by Drs. Gustave Roussy, Paris France (translated by Dr. William S. Thayer, Baltimore); Sir Humphry D. Rolleston, London, England, and Douglas VanderHoof, Richmond, Va.

Dr. W. L. Bierring, Des Moines, Iowa, nominated for Honorary Fellowship Dr. Gustave Roussy, Paris, France. Seconded and carried.

Dr. Eugene S. Kilgore, San Francisco, read a paper on "The Influence of Quantitative Methods in the Advance of Clinical Medicine." Discussed by Drs. Henry A. Christian, Boston, and E. S. Kilgore, San Francisco.

FRIDAY, APRIL 30—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

Dr. Charles Spencer Williamson, Chicago, read a paper on "Gout: A Clinical Study of One Hundred and Sixteen Cases." Discussed by Dr. Walter L. Bierring, Des Moines, Iowa; Sir Humphry D. Rolleston, London, England; Alexander Lambert, New York, and C. S. Williamson, Chicago.

The chairman announced that Dr. G. Canby Robinson had resigned as secretary of the section for reasons which were beyond his control.

It was moved, seconded and carried that Dr. Robinson's resignation be accepted with regret.

The following officers were elected: chairman, Dr. Henry S. Plummer, Rochester, Minn.; vice chairman, Dr. G. Canby Robinson, Nashville, Tenn.; secretary, Nellis B. Foster, New York; delegate, Dr. James S. McLester, Birmingham, Ala.

Dr. James E. Paullin, Atlanta, Ga., read a paper on "Renal Glycosuria." Discussed by Drs. Nelson W. Janney, Santa Barbara, Calif.; Albert A. Hornor, Jr., Boston; Allan Eustis, New Orleans, and J. E. Paullin, Atlanta, Ga.

Drs. Nelson W. Janney, Santa Barbara, Calif., and Robert R. Newell, San Francisco, presented a paper on "The Treatment of Diabetes Complicated by Pulmonary Tuberculosis." Discussed by Drs. Francis M. Pottenger, Monrovia, Calif.; F. M. Allen, New York; William C. Voorsanger, San Francisco; L. J. Genella, New Orleans, and N. W. Janney, Santa Barbara, Calif.

Dr. William Engelbach, St. Louis, read a paper on "Arterial Hypertension Associated with Endocrine Dyscrasia." Discussed by Dr. Francis M. Pottenger, Monrovia, Calif.; Prof. Gustave Roussy, Paris, France, and Drs. C. J. Fishman, Oklahoma City; F. M. Allen, New York; William S. Thayer, Baltimore, and William Engelbach, St. Louis.

Dr. Loyd Thompson, Hot Springs, Ark., read a paper on "Syphilis of the Kidney." Discussed by Drs. John Witherspoon, Nashville, Tenn.; William H. Mercur, Pittsburgh, and J. B. McElroy, Memphis, Tenn.

Dr. William P. St. Lawrence, New York, read a paper on "The Effect of Tonsillectomy on the Recurrence of Acute

Rheumatic Fever and Chorea in Children." Discussed by Drs. Lewis A. Conner, New York; Alexander Lambert, New York, and W. P. St. Lawrence, New York.

Dr. W. R. Taylor, Fort Recovery, Ohio, presented the following resolution:

Resolved, That the members of the American Medical Association return their heartfelt thanks to the civil officers of the state of Louisiana, to those of the city of New Orleans, to the officers of the state medical society of this splendid state, and especially to the members of the Orleans Parish Medical Societies, and to all of the people of this city, rich in the history of our common country, for the magnificent manner in which they have instructed and entertained us.

On motion, duly seconded and carried, the foregoing resolution was adopted by the section.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

Wednesday, April 28—Morning

The meeting was called to order at 9 o'clock by the chairman, Dr. Dean D. Lewis, Chicago.

The following papers were read as a symposium on the "Thyroid":

Dr. James T. Mason, Seattle: "One Hundred Goiter Operations: Mistakes in Retrospect."

Dr. Frank H. Lahey, Boston: "Diagnosis and Management of Intrathoracic Thyroid Growths."

Dr. Joseph R. Eastman, Indianapolis: "Advantages of Local Anesthesia in Thyroid Operations."

Dr. Willard Bartlett, St. Louis: "Technic of Thyroidectomy."

These four papers were discussed by Drs. Henry S. Plummer, Rochester, Minn.; Emil Goetsch, Brooklyn; Edward G. Jones, Atlanta, Ga.; A. J. Ochsner, Chicago; Andre Crotti, Columbus, Ohio; M. L. Harris, Chicago; G. W. Crile, Cleveland; James T. Mason, Seattle; Frank H. Lahey, Boston; Joseph R. Eastman, Indianapolis, and Willard Bartlett, St. Louis.

Dr. Joseph C. Bloodgood, Baltimore, read a paper on "Chronic Cystic Mastitis." Discussed by Drs. William C. MacCarty, Rochester, Minn., and Joseph C. Bloodgood, Baltimore.

Dr. Alfred W. Adson, Rochester, Minn., read a paper on "Brain Abscess."

Dr. George J. Heuer, Baltimore, read a paper on "Surgical Experiences with an Intracranial Approach to Chiasmal Lesions."

These two papers were discussed by Drs. H. R. Donaldson, Atlanta, Ga.; G. M. Dorrance, Philadelphia; Alfred W. Adson, Rochester, Minn., and George J. Heuer, Baltimore.

Dr. Francis Le S. Reder, St. Louis, read a paper on "Hemangioma and Lymphangioma: Their Response to the Injection of Boiling Water." Discussed by Drs. Rudolph Matas, New Orleans; Vilray P. Blair, St. Louis, and Francis Le S. Reder, St. Louis.

Thursday, April 29—Morning

The meeting was called to order by the chairman.

Dr. Dean D. Lewis, Chicago, read the chairman's address.

Dr. Alexander Primrose, Toronto, read a paper on "Squamous-Cell Carcinoma of the Kidney." Discussed by Drs. A. D. Bevan, Chicago; W. J. Mayo, Rochester, Minn.; J. J. Gilbride, Philadelphia; A. J. Ochsner, Chicago, and Alexander Primrose, Toronto.

The chairman appointed Drs. Wallace I. Terry, San Francisco, and Willard Bartlett, St. Louis, to serve on the executive committee in the absence of Drs. W. D. Haggard, Nashville, Tenn., and E. Starr Judd, Rochester, Minn.

Dr. William A. Downes, New York, read a paper on "Congenital Hypertrophic Pyloric Stenosis in Infants: Review of One Hundred and Seventy-five Cases in Which the Fredet-Rammstedt Operation Was Performed." Discussed by Drs. Dean D. Lewis, Chicago; Roland Hill, St. Louis; A. A. Straus, Chicago; L. T. Le Wald, New York; A. D. Bevan, Chicago; J. L. Ransohoff, Cincinnati; W. A. Downes, New York, and A. D. Bevan, Chicago.

Dr. Wallace I. Terry, San Francisco, read a paper on "Ulcer of the Jejunum Following Gastro-Enterostomy." Discussed by Drs. J. Shelton Horsley, Richmond, Va.; W. J. Mayo, Rochester, Minn.; A. J. Ochsner, Chicago; A. A. Strauss, Chicago, and W. I. Terry, San Francisco.

Dr. A. D. Bevan, Chicago, read a paper on "Surgery of Cancer of the Large Intestine."

Dr. G. W. Crile, Cleveland, read a paper on "Operation for Carcinoma of the Rectum."

These two papers were discussed by Drs. Daniel F. Jones, Boston, and W. J. Mayo, Rochester, Minn.

At the request of the chairman the session was addressed by the following distinguished guests: Col. H. J. Waring, Royal College of Surgeons, London; Dr. E. E. Desmarest, professor of surgery, University of Paris, and Dr. Jules Voncken, Liége, Belgium.

Drs. Arthur Stein and William H. Stewart, New York, presented a paper on "Roentgenologic Experience with Pneumoperitoneum." Discussed by Drs. George E. Pfahler, Philadelphia; B. H. Orndoff, Chicago, and W. H. Stewart, New York.

Dr. Walter Lathrop, Hazleton, Pa., read a paper on "Ether Oil Colonic Anesthesia." Discussed by Drs. James T. Gwathmey, New York; Alexander Primrose, Toronto; J. Shelton Horsley, Richmond, Va.; G. W. Crile, Cleveland, and Walter Lathrop, Hazleton, Pa.

Friday, April 30—Morning

The meeting was called to orde rat 9 o'clock by the vice chairman, Malvern B. Clopton, St. Louis.

The following officers were elected: Chairman, Dr. George P. Muller, Philadelphia; vice chairman, Dr. Edward Clarence Moore, Los Angeles; secretary, Dr. Urban Maes, New Orleans; delegate, Dr. R. P. Sullivan, New York; alternate, Dr. D. F. Jones, Boston.

Dr. Evarts A. Graham, St. Louis, read a paper on "Importance of the 'Vital Capacity' in Thoracic Surgery."

Dr. John L. Yates, Milwaukee, read a paper on "Prevention and Treatment of Pleurisy."

Dr. Carl Eggers, New York, read a paper on "Observations on the Relative Value of the Various Operative Procedures Employed in Acute Empyema."

These three papers were discussed by Drs. Alexander Lambert, New York; Martin B. Tinker, Ithaca, N. Y.; Arvine E. Mozingo, Indianapolis; James F. Mitchell, Washington, D. C.; Moses Behrend, Philadelphia; C. D. Lockwood, Pasadena, Calif.; George J. Heuer, Baltimore; T. T. Thomas, Philadelphia; Carl A. Hedblom, Rochester, Minn.; H. M. Richter, Chicago; Rosalie Slaughter Morton, New York; John B. Haeberlin, Chicago; E. A. Graham, St. Louis; John L. Yates, Milwaukee, and Carl Eggers, New York.

Dr. Addison G. Brenizer, Charlotte, N. C., read a paper on "The Use of Bone and Fascia Grafts in the Reconstruction of Bones and Joints."

Dr. Paul B. Magnuson, Chicago, read a paper on "Mechanic Stability of Fractures Following Operation."

These two papers were discussed by Drs. Harry M. Sherman, San Francisco; E. W. Ryerson, Chicago; W. R. Cubbins, Chicago; T. Turner Thomas, Philadelphia; Paul A. McIlhenny, New Orleans; A. G. Brenizer, Charlotte, N. C., and Paul B. Magnuson, Chicago.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

Wednesday, April 28—Afternoon

The chairman, Dr. Reuben Peterson, Ann Arbor, Mich., called the meeting to order at 2 o'clock.

Dr. Reuben Peterson, Ann Arbor, Mich., read the chairman's address entitled "The Future of Obstetrics and Gynecology as a Specialty."

Dr. Arthur H. Curtis, Chicago, read a paper on "Chronic Leukorrhea: Its Pathology and Treatment." Discussed by Drs. Francis Le S. Reder, St. Louis; T. J. Watkins, Chicago; Peter B. Salatich, New Orleans, and Arthur H. Curtis, Chicago.

Dr. William J. Mayo, Rochester, Minn., read a paper on "Conservation of the Menstrual Function." Discussed by Drs. C. Jeff Miller, New Orleans; John O. Polak, Brooklyn; Robert T. Morris, New York; A. J. Ochsner, Chicago, and W. J. Mayo, Rochester, Minn.

Dr. Emil Novak, Baltimore, read a paper on "Relation of Hyperplasia of the Endometrium to So-Called Functional Uterine Hemorrhage." Discussed by Drs. Lucius E. Burch, Nashville, Tenn.; Henry P. Newman, San Diego, Calif., and Emil Novak, Baltimore.

Dr. John O. Polak, Brooklyn, read a paper on "A Plea for Total Hysterectomy in the Operative Treatment of Fibroid Tumors of the Uterus in Parous Women." Discussed by Drs. E. E. Montgomery, Philadelphia; Albert Goldspohn, Chicago; William Kohlmann, New Orleans; A. C. Scott, Temple, Texas, and John O. Polak, Brooklyn.

Dr. William W. Grant, Denver, read a paper on "Hernia of the Ovary." Discussed by Drs. George H. Lee, Galveston, Texas; Albert Goldspohn, Chicago, and William W. Grant, Denver.

The chairman announced that the following distinguished physicians were attending the Association session: Col. H. J. Waring, Royal College of Surgeons, England; Dr. E. E. Demarest, professor of surgery, University of Paris, and Dr. Jules Voncken, Liége, Belgium. On motion by Dr. Arthur H. Curtis, Chicago, duly seconded and carried, these gentlemen were elected to honorary fellowship and invited to participate in the proceedings.

Dr. John M. Maury, Memphis, Tenn., read a paper on "Results of the Exposure of Animal Ovaries to the Rays of Radium." Discussed by Drs. Henry Schmitz, Chicago, and John M. Maury, Memphis, Tenn.

THURSDAY, APRIL 29—AFTERNOON

The chairman called the meeting to order at 2 o'clock.

Dr. Mathias J. Seifert, Chicago, read a paper on "Abnormal Lactation." Discussed by Dr. William Kohlmann, New Orleans.

Dr. Isador C. Rubin, New York, read a paper on "Intra-Uterine Insufflation of Oxygen (Artificial Pneumoperitoneum) for the Determination of Potency of the Fallopian Tubes in Cases of Sterility." Discussed by Drs. J. O. Polak, Brooklyn, and Isador C. Rubin, New York.

Dr. Edward L. King, New Orleans, read a paper on "The Policy of Noninterference in the Treatment of Postabortive and Puerperal Infections." Discussed by Drs. J. O. Polak, Brooklyn, and Edward L. King, New Orleans.

Dr. James M. Mason, Birmingham, Ala., read a paper on "The Management of Acute Appendicitis in the Later Weeks of Pregnancy: Report of Case Treated by Cesarean Section and Appendectomy." Discussed by Drs. Arthur H. Curtis, Chicago; Francis Le S. Reder, St. Louis; David Ross, Indianapolis, and James M. Mason, Birmingham, Ala.

The chairman announced that Dr. T. J. Watkins, Chicago, who had been appointed a substitute on the Executive Committee, had been obliged to leave, and therefore he would appoint Dr. Arthur H. Curtis, Chicago, on the Executive Committee.

FRIDAY, APRIL 30—AFTERNOON

The chairman called the meeting to order at 2 o'clock.

The following officers were elected: chairman, Dr. John O. Polak, Brooklyn; vice chairman, Dr. Lucius E. Burch, Nashville, Tenn.; secretary, Dr. Sidney A. Chalfant, Pittsburgh; delegate, Dr. Edward Reynolds, Boston; alternate, Dr. S. M. D. Clark, New Orleans.

The paper of Dr. Carroll W. Allen, New Orleans, on "An Operation for Pruritus of the Vulva and Anus," was read by Dr. E. Denegre Martin, New Orleans. Discussed by Dr. Denegre Martin, New Orleans.

Dr. Richard R. Smith, Grand Rapids, Mich., read a paper on "Prolapse of the Urethra in the Female." Discussed by Drs. S. M. D. Clark, New Orleans; F. F. Lawrence, Columbus, Ohio; Arthur H. Curtis, Chicago, and Richard R. Smith, Grand Rapids, Mich.

Dr. John J. Gilbride, Philadelphia, read a paper on "Cysts of the Pancreas." Discussed by Drs. A. C. Scott, Temple, Texas; Moses Behrend, Philadelphia, and Marcell Hartwig, Los Angeles.

Dr. Moses Behrend, Philadelphia, read a paper on "An Improved Technic for Cholecystectomy Based on an Anatomic Study." Discussed by Drs. A. C. Wood, Philadelphia; J. B. Haeberlin, Chicago; M. J. Seifert, Chicago; J. J. Gilbride, Philadelphia; E. P. Quain, Bismarck, N. D.; H. M. Richter, Chicago, and Moses Behrend, Philadelphia.

Dr. Edgar P. Hogan, Birmingham, Ala., read a paper on "Appendicitis Caused by Amebae Dysenteriae: Postoperative Perforation of an Amebic Ulcer of the Cecum." Discussed by Drs. J. B. Haeberlin, Chicago, and Edgar P. Hogan, Birmingham, Ala.

SECTION ON OPHTHALMOLOGY

WEDNESDAY, APRIL 28—MORNING

The meeting was called to order at 9:15 by the chairman, Dr. Allen Greenwood, Boston.

Dr. Allen Greenwood, Boston, read the chairman's address, entitled "Postgraduate Ophthalmology."

Dr. James Bordley, Jr., Baltimore, read a paper on "Optic Nerve Disturbances in Diseases of the Posterior Nasal Sinuses."

Dr. Edward C. Ellett, Memphis, Tenn., read a paper on "Optic Neuritis Associated with Disease of the Nasal Sinuses."

These two papers were discussed by Drs. George E. de Schweinitz, Philadelphia; Lee M. Francis, Buffalo; William C. Posey, Philadelphia; Harry S. Gradle, Chicago; Samuel G. Higgins, Milwaukee; Hiram Woods, Baltimore; Harold Bailey, Springfield, Mo.; H. B. Lemere, Omaha; Herbert Moulton, Fort Smith, Ark., and Nelson M. Black, Milwaukee.

Dr. J. Herbert Claiborne, New York, read a paper on "Ocular Symptoms in Exophthalmic Goiter." Discussed by Drs. Albert E. Bulson, Jr., Fort Wayne, Ind.; W. H. Wilder, Chicago; Edward Jackson, Denver, and J. Herbert Claiborne, New York.

Drs. Walter B. Lancaster, Boston; Francis L. Burnett, Boston, and Louis H. Gaus, Boston, presented a paper on "Mercurochrome-220: A Clinical and Laboratory Report on Its Use in Ophthalmology." Discussed by Drs. J. Herbert Claiborne, New York; George S. Derby, Boston; Hiram Woods, Baltimore; Benjamin F. Travis, Chattanooga, Tenn., and Walter B. Lancaster, Boston.

THURSDAY, APRIL 29—MORNING

The meeting was called to order at 9:10 by the chairman.

Dr. J. Herbert Claiborne, New York, presented a pair of bifocal cataract glasses.

Sylvester J. Beach, Augusta, Maine, presented a rapid clinical perimeter.

Dr. J. Ellis Jennings, St. Louis, presented a new lantern for the detection of color blindness.

Dr. Lawrence T. Post, St. Louis, presented a thermaphor devised by Dr. William E. Shahan, St. Louis.

Dr. E. A. Robin, New Orleans, presented a colored woman, aged 31, whose vision had been failing for eight years, and asked for a diagnosis.

Dr. Sidney L. Olsho, Philadelphia, presented a new trial frame with more delicately adjusted tilting temples for use in spectacle and eye-glass fitting.

Dr. Edward J. Curran, Kansas City, Mo., read a paper on "Peripheral Iridectomy in Chronic Glaucoma." Discussed by Drs. William Zentmayer, Philadelphia; Harold Bailey, Springfield, Mo.; Meyer Wiener, St. Louis, and Edward J. Curran, Kansas City, Mo.

Drs. Lawrence Post, St. Louis, and William E. Shahan, St. Louis, presented a paper on "Thermaphor Studies in Glaucoma." Discussed by Drs. John O. McReynolds, Dallas, Texas; George S. Derby, Boston, and Lawrence Post, St. Louis.

Dr. Harry H. Stark, El Paso, Texas, read a paper on "Diagnosis of Chronic Intra-Ocular Tuberculosis." Discussed by Drs. William C. Finnoff, Denver; Walter R. Parker, Detroit; Edward Jackson, Denver; Harry S. Gradle,

Chicago; Hiram Woods, Baltimore; George S. Derby, Boston, Harry H. Stark, El Paso, Texas.

Dr. Arthur J. Bedell, Albany, N. Y., read a paper on "Ethylhydrocuprein in Diseases of the Eye." Discussed by Drs. Harry S. Gradle, Chicago; Edward C. Ellett, Memphis, Tenn.; James M. Patton, Omaha; William Zentmayer, Philadelphia; Lewis H. Taylor, Wilkes-Barre, Pa.; Harry H. Stark, El Paso, Texas; Lee M. Francis, Buffalo; William C. Finnoff, Denver; Allen Greenwood, Boston, and Arthur J. Bedell, Albany, N. Y.

Dr. Marcus Feingold, New Orleans, read a paper on "Peripheral Communicating Vessels Between Retina and Choroid, with Remarks on Fold of the Inner Limiting Membrane in Certain Cases of Chorioretinitis." Discussed by Drs. Edward Jackson, Denver; Edward C. Ellett, Memphis, Tenn., and Charles A. Bahn, New Orleans.

Friday, April 30—Morning

The meeting was called to order at 9:15 by the chairman.

Dr. Allen Greenwood made a verbal report for the Committee on Preparation of Compensation Tables, and asked that this committee be dissolved. It was moved by Dr. C. D. Wescott, Chicago, that the present committee be dissolved and a new committee appointed by the chairman. Motion seconded and carried.

Dr. Edward Jackson, Denver, read the report of the Committee on Standardization of Undergraduate Teaching of Ophthalmology. It was moved by Dr. C. D. Wescott, Chicago, that this report be accepted and the committee discharged, with the thanks of the section. Motion seconded and carried.

Dr. George S. Derby, Boston, read a letter from the Committee on Conferring the Knapp Medal, stating that the committee had decided that it was unable to confer the medal this year, as the papers presented at the last meeting of the section did not reach the required standard. This report was accepted without vote.

Dr. Lucien Howe, Buffalo, made a report for the Committee on the Study of Ocular Muscles. Moved by Dr. Robert H. T. Mann, Texarkana, Ark., that this report be accepted and the committee continued. Motion seconded and carried.

Dr. Lucien Howe, Buffalo, made a report for the Committee on the Prevention of Hereditary Blindness. Moved by Dr. Walter R. Parker, Detroit, that the report be accepted and the committee continued. Motion seconded and carried.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., made a report for the Committee for the Study of Local Anesthesia. Moved by Dr. Robert H. T. Mann, Texarkana, Ark., that the report be accepted and the committee continued. Motion seconded and carried.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., read the report of the Committee on the Knapp Testimonial. Moved by Dr. C. D. Wescott, Chicago, that the report be accepted and the committee continued. Motion seconded and carried.

Dr. William H. Wilder, Chicago, read a report for the Committee on International Congress of Ophthalmologists. Moved by Dr. C. D. Wescott, Chicago, that the report be accepted and the committee continued. Motion seconded and carried.

Dr. Edward Jackson, Denver, read the report of the Committee on Ophthalmologic Examinations. Moved by Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., that the report be accepted and the committee continued. Motion seconded and carried.

Dr. William C. Posey, Philadelphia, read the report of the Committee on the Ultraviolet and Visible Transmission of Eye-Protective Glasses. Moved by Dr. W. B. Lancaster, Boston, that the report be adopted, and the committee continued, and asked to make a statement showing under what conditions such lenses are wisely prescribed by ophthalmologists; also that this report be printed in the transactions. Motion seconded and carried.

Dr. Henry D. Bruns, New Orleans, offered a resolution asking that this section devise ways and means for the correct diagnosis of follicular trachoma. Moved by Dr. Edward C. Ellett, Memphis, Tenn., that this resolution be referred to a committee of three, to be appointed by the chairman, which committee shall investigate and report at the next session of this section. Motion seconded and carried.

Dr. George S. Derby, Boston, then read the standing rules and regulations governing the section.

Dr. William Zentmayer, Philadelphia, presented the following report for the executive committee:

The executive committee recommends the adoption of the rules as read with the following amendments:

The time allowed for the presentation of a paper before the section shall be limited to ten minutes. The speaker appointed to open the discussion shall be allowed ten minutes, with the exception that the time may be extended by unanimous consent of those present when the speaker is an invited guest of the section. The Executive Committee further recommends:

That our delegate to the House of Delegates be instructed to inform the House that it is the sense of the Executive Committee that the three-session plan should be given a further trial to determine whether or not it should be permanently adopted.

The Executive Committee further recommends that the section inform the Trustees that at the present time the allowance made to the secretary is insufficient to pay the expenses incurred and that they be requested to increase the allowance to meet the present needs of the secretary.

The executive committee recommends for nomination the following officers for this section: chairman, James Bordley, Jr., Baltimore; vice chairman, Marcus Feingold, New Orleans; delegate, Lee M. Francis, Buffalo, and member examining board, Albert E. Bulson, Jr., Fort Wayne, Ind.

Moved by Dr. Nelson M. Black, Milwaukee, that the secretary be instructed to incorporate into the rules of this section such of these rules as are not at present in force. Motion seconded and carried.

Moved by Dr. Henry D. Bruns, New Orleans, that the paragraph of the report relating to the instructions to the delegate to the House be adopted. Motion seconded and carried.

Moved by Dr. William C. Posey, Philadelphia, that the secretary be instructed to cast the unanimous ballot of the section for the officers named in the report. Motion seconded and carried.

Moved by Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., that it is the sense of the Section on Ophthalmology that discussions of papers shall be submitted to the discussants for correction before they are published in The Journal of the American Medical Association; also that The Journal shall print the minutes of the executive session, after they have been submitted to the secretary of the section for revision. Motion seconded and carried.

Moved that Drs. Walter R. Parker, Detroit; Lee M. Francis, Buffalo, and Lewis H. Taylor, Wilkes-Barre, Pa., be made the Committee on Awards. Motion seconded and carried.

Moved by Dr. William Zentmayer, Philadelphia, that a committee be appointed to draw up suitable resolutions relative to the death of Dr. Samuel D. Risley, Philadelphia. Motion seconded and carried. The chairman appointed on this committee: Drs. George E. de Schweinitz, Philadelphia; William Zentmayer, Philadelphia, and G. Oram Ring, Philadelphia.

Executive session adjourned.

Dr. Lucien Howe, Buffalo, read a paper on "The Coefficient of Thermal Conductivity of Eye and Orbit Measured with Cold Applications." Discussed by Drs. Edward Jackson, Denver; Walter B. Lancaster, Boston, and Lucien Howe, Buffalo.

The new chairman, Dr. James Bordley, Jr., presided during the rest of the session.

Dr. William L. Benedict, Rochester, Minn., read a paper on "Early Diagnosis of Pituitary Tumor with Ocular Phenomena." Discussed by Drs. F. Phinizy Calhoun, Atlanta, Ga.; George E. de Schweinitz, Philadelphia; Alfred W. Adson, Rochester, Minn.; Walter R. Parker, Detroit; Allen Greenwood, Boston; George S. Derby, Boston; William Zentmayer, Philadelphia, and William L. Benedict, Rochester, Minn.

Dr. Herbert Moulton, Fort Smith, Ark., read a paper on "Sympathetic Ophthalmia: Report of Four Cases in Which the Condition Was Treated with Large Doses of Sodium Salicylate." Discussed by Drs. James M. Patton, Omaha;

John A. Donovan, Butte, Mont.; E. H. Frederick Frisch, Atlantic City, N. J.; Hugh M. Lokey, Atlanta, Ga., and Herbert Moulton, Fort Smith, Ark.

Drs. Meyer Wiener, St. Louis, and William E. Sauer, St. Louis, presented a paper on "A New Operation for the Relief of Dacryocystitis Through the Nasal Route." Discussed by Drs. William H. Wilder, Chicago; Walter B. Lancaster, Boston; William L. Benedict, Rochester, Minn.; William C. Posey, Philadelphia; Louis D. Green, San Francisco; Earl Whedon, Sheridan, Wyo., and Meyer Wiener, St. Louis.

Dr. John M. Wheeler, New York, read a paper on "Restoration of the Margin and Neighboring Portion of the Eyelid by a Free Graft from the Lower Part of the Eyebrow and the Skin Directly Below It." Discussed by Drs. Nelson M. Black, Milwaukee; William C. Posey, Philadelphia; Gaylord C. Hall, Louisville, Ky., and John M. Wheeler, New York.

The chairman appointed these committees:

Committee to investigate regarding the diagnosis of follicular trachoma: Drs. Henry D. Bruns, New Orleans; E. A. Robin, New Orleans, and Edward C. Ellett, Memphis, Tenn.

Committee on Compensation: Drs. Nelson M. Black, Milwaukee; Harry S. Gradle, Chicago, and Albert C. Snell, Rochester, N. Y.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

WEDNESDAY, APRIL 28—AFTERNOON

The meeting was called to order at 2:15 by the chairman, Dr. Joseph C. Beck, Chicago.

The chairman announced that in the absence of Dr. Greenfield Sluder, St. Louis, Dr. George M. Coates, Philadelphia, would act as a member of the Executive Committee.

Dr. Joseph C. Beck, Chicago, read the chairman's address, entitled "The Future of Otolaryngology."

It was moved by Dr. William B. Chamberlin, Cleveland, that the presentation of reports as well as papers be limited to fifteen minutes. Seconded and carried.

Dr. Ferris N. Smith, Grand Rapids, Mich., read a paper on "Plastic Surgery: Its Relation to the Otolaryngologist."

Dr. Millard R. Arbuckle, East St. Louis, Ill., read a paper on "Plastic Surgery of the Face." Discussed by Drs. George M. Coates, Philadelphia; George M. Dorrance, Philadelphia; Austin A. Hayden, Chicago; Ferris N. Smith, Grand Rapids, Mich., and Millard F. Arbuckle, East St. Louis, Ill.

Dr. Gordon B. New, Rochester, Minn., read a paper on "Mixed Tumors of the Throat, Mouth and Face." Discussed by Drs. Lee W. Dean, Iowa City; Wendell C. Phillips, New York; John F. Barnhill, Indianapolis; T. E. Carmody, Denver, and Gordon B. New, Rochester, Minn.

Dr. John F. Barnhill, Indianapolis, read a paper on "Thyroid Surgery, Especially as Related to Laryngology." Discussed by Drs. Emil Mayer, New York; Norval H. Pierce, Chicago; Joseph C. Beck, Chicago; T. E. Carmody, Denver, and John F. Barnhill, Indianapolis.

Dr. Robert Sonnenschein, Chicago, read a paper on "The Use and Possible Abuse of Radium in the Treatment of Malignant Tumors of the Nose and Throat." Discussed by Drs. William B. Chamberlin, Cleveland; Cullen F. Welty, San Francisco; Joseph D. Heitger, Louisville, Ky.; G. E. Pfahler, Philadelphia; S. G. Higgins, Milwaukee; Albert F. Tyler, Omaha, and Robert Sonnenschein, Chicago.

Dr. Richmond McKinney, Memphis, Tenn., read a paper on "Misleading Symptoms and Roentgen-Ray Findings in Suspected Mastoid Abscess." Discussed by Drs. Francis P. Emerson, Boston; Cullen F. Welty, San Francisco; G. H. Mundt, Chicago; William B. Chamberlin, Cleveland; E. Lee Myers, St. Louis, and Richmond McKinney, Memphis, Tenn.

THURSDAY, APRIL 29—AFTERNOON

The meeting was called to order at 2:10 by the chairman.

Dr. Joseph D. Heitger, Louisville, Ky., read a paper on "Present Status of Neurotology from the Borderline Standpoint." Discussed by Drs. Harold L. Lillie, Rochester, Minn.; George W. MacKenzie, Philadelphia; Lee W. Dean, Iowa City; Julius Grinker, Chicago, and Joseph D. Heitger, Louisville, Ky.

Dr. Eugene R. Carpenter, Dallas, Texas, read a paper on "Intracranial Lesions Involving the Auditory Vestibular Apparatus." Discussed by Drs. Isaac W. Jones, Los Angeles; Harold I. Lillie, Rochester, Minn.; Tom A. Williams, Washington, D. C.; George W. MacKenzie, Philadelphia; Julius Grinker, Chicago, and Eugene R. Carpenter, Dallas, Texas.

Dr. George W. MacKenzie, Philadelphia, read a paper on "Neurolabyrinthitis Syphilitica." Discussed by Drs. George M. Coates, Philadelphia; Norval H. Pierce, Chicago; Cullen F. Welty, San Francisco; Joseph D. Heitger, Louisville, Ky.; William B. Chamberlin, Cleveland; Harry L. Pollock, Chicago; H. B. Lemere, Omaha; E. Lee Myers, St. Louis, and George W. MacKenzie, Philadelphia.

Dr. Francis P. Emerson, Boston, read a paper on "Clinical Manifestations of the Infection of the Lateral Sinus." Discussed by Drs. Cullen F. Welty, San Francisco; John F. Barnhill, Indianapolis; Lee W. Dean, Iowa City; H. H. Martin, Savannah, Ga.; Leon E. White, Boston, and Francis P. Emerson, Boston.

Dr. Cullen F. Welty, San Francisco, read a paper on "New Method of Closing an Enlarged Tooth Root Opening into the Maxillary Antrum." Discussed by Drs. Joseph A. Stucky, Lexington, Ky.; Joseph C. Beck, Chicago, and Cullen F. Welty, San Francisco.

Dr. William V. Mullin, Colorado Springs, Colo., read a paper on "The Indifference of the Laryngologist Toward Tuberculous Laryngitis and the Tuberculosis Problem." Discussed by Drs. John B. McMurray, Washington, Pa.; T. E. Carmody, Denver; Joseph A. Stucky, Lexington, Ky.; Cullen F. Welty, San Francisco; Carl H. McCaskey, Indianapolis, and William V. Mullin, Colorado Springs, Colo.

Moved by Dr. Leon White, Boston, that this section convene Friday afternoon at 1:30 instead of 2 o'clock, and that exhibition of instruments take place before election of officers. Seconded and carried.

FRIDAY, APRIL 30—AFTERNOON

The meeting was called to order at 1:40 by the chairman.

Dr. Joseph L. Goodwin, Tazewell, Tenn., presented combined forceps and bronchoscope.

Dr. Augustus A. Hayden, Chicago, presented a method of tying knots around a mastoid bandage to keep it smooth and prevent the edges from stretching.

Dr. M. M. Cullom, Nashville, Tenn., presented an adenotome that can be also used as a curet, also a pair of bifocal glasses to be used when examining the nose.

The secretary read the report of the Committee on Caustic Alkalis. It was moved by Dr. Charles W. Richardson, Washington, D. C., that the report be accepted and the committee continued. Seconded and carried.

The secretary read the report of the Committee on Undergraduate and Graduate Teaching of Otolaryngology. It was moved by Dr. Charles W. Richardson, Washington, D. C., that the report be accepted and the committee continued. Seconded and carried.

The following officers were elected: chairman, Ross H. Skillern, Philadelphia; vice chairman, Richmond McKinney, Memphis, Tenn.; secretary, William B. Chamberlin, Cleveland; delegate, John F. Barnhill, Indianapolis.

Dr. Emil Mayer, New York, read the report of the Committee on Necrology. It was moved by Dr. William B. Chamberlin that this report be accepted, that the thanks of the section be extended to Dr. Emil Mayer, New York, for his work in preparing this report, and that the members of the section rise for a moment in honor of the departed members. Seconded and carried.

Dr. Charles W. Richardson, Washington, D. C., read the report of the Committee on the Education of the Deaf Child. It was moved by Dr. Wendell C. Phillips, New York, that the report be accepted. Seconded and carried.

Moved by Dr. Wendell C. Phillips, New York, that the scope of this work be extended to include the deaf child as well as the deaf adult, and that the investigations of this committee be carried out along all lines of deafness. Seconded by Dr. Emil Mayer, New York.

Dr. W. B. Chamberlin, Cleveland, offered an amendment to the effect that the committee be increased from three to five

members, and that the investigation include work along the line of education of the deaf adult. Motion seconded and the amended motion carried.

Dr. Emil Mayer, New York, read a special report on local anesthesia by the Committee on Therapeutic Research.

Moved by Dr. Francis P. Emerson, Boston, that the recommendations of the Committee on Local Anesthesia be adopted; that is, that this section endorse the plan for the investigation of new remedies by members of the American Medical Association, when the Council on Pharmacy has concluded its examinations; also that the chairman appoint a permanent committee of four on the toxic effects of local anesthetics, one member to be the secretary of the section, this committee to report at the next annual meeting. Seconded and carried.

The special report of the Committee on Local Anesthesia was discussed by Dr. Rudolph Matas, New Orleans, and Dr. Carroll W. Allen, New Orleans.

Moved by Dr. S. G. Higgins, Milwaukee, that the discussion of papers be limited to those men whose names appear on the program. Seconded and carried.

The discussion of the report of the Committee on Local Anesthesia was closed by Dr. Emil Mayer, New York.

The newly elected chairman, Dr. Ross H. Skillern, Philadelphia, took the chair.

Dr. Leon E. White, Boston, read a paper on "The Diagnosis and Prognosis of Loss of Vision from Accessory Sinus Disease. Discussed by Drs. S. G. Higgins, Milwaukee, and Leon E. White, Boston.

Dr. Owen Smith, Portland, Maine, read a paper on "Harelip and Cleft Palate." Discussed by Dr. T. E. Carmody, Denver.

Dr. Henry H. Briggs, Asheville, N. C., read a paper on "Relative Value of Transillumination and Roentgenography in the Diagnosis of Disease of the Maxillary and Frontal Sinuses; with Description of an Orbitopalatal Route of Transilluminating the Maxillary Sinus." Discussed by Drs. Joseph C. Beck, Chicago, and H. H. Briggs, Asheville, N. C.

Dr. Robert G. Reaves, Greensboro, S. C., read a paper on "Nerve Blocking for Nasal Surgery." Discussed by Drs. H. H. Martin, Savannah, Ga., and by Robert G. Reaves, Greensboro, S. C.

The chairman announced that the Committee on Local Anesthesia would consist of the old committee with the addition of the secretary of the section.

SECTION ON DISEASES OF CHILDREN

Wednesday, April 28—Morning

The meeting was called to order at 9 o'clock by the chairman, Dr. Fritz B. Talbot, Boston.

Dr. Fritz B. Talbot, Boston, read the chairman's address, entitled "The Future of Pediatrics."

The secretary announced the dinner of the section to be held at the Hotel Grunewald, Thursday evening at 7 o'clock. He also announced that Dr. and Mrs. Laurence R. DeBuys, New Orleans, had invited the section to a tea at their home, Thursday afternoon from 4 to 6.

Dr. John Lovett Morse, Boston, read a paper on "The Treatment of Indigestion in Children." Discussed by Drs. L. W. Hill, Boston; C. G. Grulee, Chicago; L. T. Lewald, New York; I. A. Abt, Chicago, and John L. Morse, Boston.

Dr. Harry M. McClanahan, Omaha, read a paper on "The Treatment of Indigestion in Children from Six to Twelve Years of Age." Discussed by Drs. Laurence R. DeBuys, New Orleans; H. D. Chapin, New York; John Lovett Morse, Boston; Lydia Allen DeVilbiss, Washington, D. C.; G. D. Scott, New York; Fred Moore, Des Moines, Iowa, and Harry M. McClanahan, Omaha.

Dr. C. Hilton Rice, Jr., Montgomery, Ala., read a paper on "The Relation of the Acquired Food Dislikes of Childhood to the Ills of Middle Life." Discussed by Drs. William Walton Butterworth, New Orleans; Fritz B. Talbot, Boston; May G. Wilson, New York; O. M. Gilbert, Boulder, Colo., and C. Hilton Rice, Jr., Montgomery, Ala.

Dr. William A. Mulherin, Augusta, Ga., read a paper on "Three Pertinent Questions on Maternal Feeding." Discussed by Dr. John Lovett Morse, Boston; James D. Love, Jacksonville, Fla.; I. A. Van Zandt, Fort Worth, Texas; A. J. Scott, Jr., Los Angeles; L. H. Roddy, Waco, Texas; William Weston, Jr., Columbia, S. C.; Charles James Bloom, New Orleans, and William A. Mulherin, Augusta, Ga.

Dr. Henry Dwight Chapin, New York, read a paper on "How Pediatric Teaching of Nutrition May Affect the Nation's Welfare." Discussed by Drs. John A. Foote, Washington, D. C.; Lewis W. Hill, Boston, and Henry Dwight Chapin, New York.

Dr. George Dow Scott, New York, read a paper on "The Clinical Value of Vegetable Oils in Certain Abnormal Conditions of Infancy and Childhood." No discussion.

Thursday, April 29—Morning

The meeting was called to order at 9 o'clock by the chairman.

Dr. William Weston, Columbia, S. C., read a paper on "Acrodynia." Discussed by Drs. A. H. Byfield, Iowa City; Joseph Goldberger, Washington, D. C., and William Weston, Columbia, S. C.

Drs. Warren R. Sisson and W. Denis, Boston, presented a paper on "Observations on the Salt Content of Breast Milk." Discussed by Dr. Fritz B. Talbot, Boston.

Dr. Lewis Webb Hill, Boston, read a paper on "Chronic Nephritis in Children." Discussed by Drs. C. F. Wahrer, Fort Madison, Iowa; John Lovett Morse, Boston; G. D. Scott, New York; H. M. McClanahan, Omaha, and Lewis Webb Hill, Boston.

Dr. Edgar J. Huenekens, Minneapolis, presented a paper on "Infantile Spinal Progressive Muscular Atrophy (Werdnig-Hoffmann)." Discussed by Drs. Frank C. Neff, Kansas City, Mo.; John Zahorsky, St. Louis, and Edgar J. Huenekens, Minneapolis.

Dr. Richard S. Eustis, Boston, read a paper on "Newer Ideas of Heart Disease Applied to Pediatrics." Discussed by Drs. George D. Scott, New York; Julius H. Hess, Chicago; A. J. Scott, Jr., Los Angeles; John M. Dodson, Chicago; Isaac A. Abt, Chicago, and Richard S. Eustis, Boston.

Dr. May G. Wilson, New York, read a paper on "Circulatory Reactions in Normal Children after Exercise." Discussed by Drs. Alexander Lambert, New York; Maud Loeber, New Orleans; William St. Lawrence, New York; Laurence R. DeBuys, New Orleans; Fritz B. Talbot, Boston; E. C. Fleischner, San Francisco, and May G. Wilson, New York.

Dr. Henry J. Cartin, Johnstown, Pa., read a paper on "Intubation of the Larynx." Discussed by Drs. Isaac A. Abt, Chicago; L. T. Royster, Norfolk, Va.; A. J. Scott, Jr., Los Angeles; George D. Scott, New York; John Zahorsky, St. Louis; John A. Foote, Washington, D. C.; Howard B. Hamilton, Omaha; Solon G. Wilson, New Orleans, and H. J. Cartin, Johnstown, Pa.

Friday, April 30—Morning

The meeting was called to order at 9 o'clock by the chairman.

The following officers were elected: chairman, Dr. Frank C. Neff, Kansas City, Mo.; vice chairman, Dr. William Weston, Jr., Columbia, S. C.; delegate, Dr. Isaac A. Abt, Chicago.

Dr. Julius P. Sedgwick, Minneapolis, read the subjoined report of the Child Welfare Committee:

Your committee, in submitting its report, desires first to call attention to the resolution adopted at the last annual meeting of the section, wherein its functions are defined:

Resolved, That it is the sense of this meeting that a committee be appointed to consider the question of child welfare more fully during the coming year; that it be instructed to meet with whatever agency it sees fit, submitting its problems to the Council on Health and Public Instruction of the American Medical Association, and to promote the interests of children by bringing the pediatrist of the country into more intimate touch with the movement, by whatever other means may seem expedient.

In June of 1919, after the adjournment of the American Medical Association, a conference was held by your committee with Dr. Anna E. Rude, of the Child Hygiene Division, Children's Bureau, at which

time her attention was called to the attitude of the profession of the country toward the Children's Bureau. A request was made that Miss Julia C. Lathrop of the Children's Bureau should confer with your committee, and representatives of the American Children's Hygiene Association and the American Pediatric Society, in Atlantic City.

This conference was subsequently held, and the two following concurrent criticisms explained to Miss Lathrop: first, that the medical profession was absolutely opposed to the method whereby the state committees for the Children's Year were appointed without any consideration being taken as to the attitude of the medical profession on those appointees; second, that the policy of the Children's Bureau of publishing medical literature under the authorship of lay women was absurd, and conducive to disorganization.

After a plain discussion, it was suggested that the difficulties could be overcome by the appointment to the Child Hygiene Division of the Children's Bureau, of an advisory committee, consisting of one member nominated by the American Medical Association, one member nominated by the American Child Hygiene Association, and one member nominated by the American Pediatric Society.

Inasmuch as the nomination of a member representing the American Medical Association was a function of the Council on Health and Public Instruction, the whole matter was discussed with that council, and the name of Julius H. Hess, suggested by your committee as the representative of the American Medical Association.

Dr. Hess was informed by the Council on Health and Public Instruction, and appointed by Miss Lathrop to this Advisory Committee.

Dr. Julius H. Hess, Chicago, submitted the following report:

Report of the members of the Child Welfare Committee of the Section on Diseases of Children of the American Medical Association, by its nominee to the Advisory Committee to the Division of Child Hygiene of the Children's Bureau:

All of the members of the Advisory Committee, consisting of Richard M. Smith, representing the American Pediatric Society, Dr. Howard C. Carpenter, representing the American Child Hygiene Association, and Dr. Julius H. Hess, representing the American Medical Association, met with Dr. Anna E. Rude, of the Division of Child Hygiene, of the Children's Bureau, in Boston, Oct. 7, 1919. The committee made extensive suggestions for revision of the text of the pamphlet by Dr. Mendenhall on "Infant Feeding." This revised material will probably be submitted to the committee for further suggestions within the next two months. The pamphlet on "Infant Care" by Miss Max Wess has been sent to the members of the committee for advice as to changes in the text, as a preliminary to a meeting of the committee to be held in Chicago, June 3, 1920.

The committee has also suggested the advisability of issuing the pamphlet in the name of the Children's Bureau, with credit for compilation in the preface rather than, as heretofore, on the cover of the pamphlet.

Your committee wishes to express its appreciation for the spirit of cooperation manifested by Dr. Anna E. Rude of the Children's Hygiene Division of the Children's Bureau, toward the Advisory Committee. Only by such cooperation can the best results be achieved.

In view of the tremendous importance of the subject, your section is urged to undertake, through your Child Hygiene Committee, an intensive educational campaign on breast feeding.

Since it seems to be the consensus of opinion of the members of this section that bottle feeding should be stressed in every possible way; and inasmuch as there are carried in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION certain advertisements of proprietary infants' foods which are not consistent with this opinion, your committee feels that the matter of their publication should be taken up with the management of THE JOURNAL.

Inasmuch as the various problems in child hygiene require constant attention, your committee further recommends that the chairman-elect of this section appoint a standing committee of five to assume these responsibilities, which committee shall be known as the Child Hygiene Committee on the Section of Diseases of Children of the American Medical Association.

On motion duly made, seconded and unanimously carried, this report was adopted by the section.

Dr. E. C. Fleischner: Mr. Chairman, it has been the custom of the Council on Scientific Assembly of the American Medical Association to hold each year in Chicago a conference with the secretaries of all the sections, in order to have a better understanding of the work of the Scientific Assembly, among the members of the various sections.

The secretary presented the following standing rules to be adopted by the section:

First, no paper shall occupy more than fifteen minutes in its presentation before the section. (Sec. 2, Chap. 11, By-Laws).

"The time allowed for the presentation of a paper before a section shall be limited to fifteen minutes" shall be mandatory, with the exception that the time may be extended by the unanimous consent of those present when the speaker is an invited guest of the section. The section shall not exercise this privilege, to extend the time for the discussion of a paper beyond the time allotted, five minutes, but this time limit shall be mandatory.

Second, with the exception that the reader of the paper may be permitted to close the discussion, a Fellow shall be permitted to take part in the discussion of a paper once and only once.

Third, any Fellow who desires to discuss a paper shall be required to give in writing his name, together with his home and local annual session address to the secretary of the section before he is given the floor. This rule shall be strictly enforced when for the first time in the annual session a Fellow takes part in the discussions of the section.

Fourth, each author shall hand his paper to the secretary of the section after reading. This requirement shall be amplified and emphasized, and shall be construed to require that each author must present to the secretary of the section a finished copy of his paper before he is permitted to present his contribution to the section.

Fifth, each author shall be required to send one synopsis of his paper to each of those listed in the official program to open the discussion of the paper, and these synopses shall be mailed to those assigned to open the discussions, at least ten days before the first day assigned for the meetings of the section.

Sixth, the secretary of the section shall inform himself as to whether or not each member of the Executive Committee of his section expects to be in attendance at each annual session of the Association, and shall transmit to the chairman of the section the information he receives, reporting both who of the Executive Committee of the section plan to be in attendance, and also who will probably not be present.

Seventh, the secretary of the section shall mail a copy of the rules of the section to each Fellow who is assigned to a place on the program of the section.

Eighth, the rules of the section shall be binding on the secretary of the section, who shall have no option, but must enforce them.

Ninth, when two or more sections unite for the purpose of a symposium, the officers of the sections united shall select from among their numbers, a chairman, a secretary and an executive committee of three, and the same shall function as the officers of the joint meeting.

On motion duly seconded and carried, the rules were adopted.

It was moved by Dr. Harry M. McClanahan, Omaha, and was duly seconded and carried, that a committee be appointed to wait on Dr. Franklin P. Gegenbach, Denver, and to report back to the section. The chairman appointed as such committee Drs. Harry M. McClanahan, Omaha, and M. L. Turner, Des Moines, Iowa.

Dr. Isaac A. Abt, Chicago, moved that a committee of two be appointed to draw up an appropriate memorial to Dr. Abraham Jacobi, New York, and to present it at the next annual meeting. Seconded and carried. The chairman appointed as such committee Drs. Isaac A. Abt, Chicago, and H. F. Helmholz, Chicago.

Drs. William E. Carter, San Francisco, and Langley Porter, San Francisco, presented a paper on "Observations on Tumors of the Kidney in Children." Discussed by Dr. L. T. LeWald, New York, Sir Humphry Davy Rolleston, London, England, and Dr. W. E. Carter, San Francisco.

Dr. J. Ross Snyder, Birmingham, Ala., read a paper on "The Temporary Teeth Disorders Due to Their Neglect." Discussed by Drs. Julius P. Sedgwick, Minneapolis; Isaac A. Abt, Chicago; W. L. Funkhouser, Atlanta, Ga.; C. F. Wahrer, Fort Madison, Iowa; Laurence R. DeBuys, New Orleans; Fritz B. Talbot, Boston; E. C. Fleischner, San Francisco, and J. Ross Snyder, Birmingham, Ala.

Dr. Turner reported for the committee appointed to call on Dr. F. P. Gegenbach that the Doctor was improving.

Dr. Frederick C. Rodda, Minneapolis, read a paper on "The Coagulation Time of Blood in the New-Born with Special Reference to Cerebral Hemorrhage." Discussed by Drs. Isaac A. Abt, Chicago; John Foote, Washington, D. C.; Howard B. Hamilton, Omaha, and Frederick C. Rodda, Minneapolis.

Dr. Josiah J. Moore, Chicago, read a paper on "The Anti-scorbutic Value of Proprietary Baby Foods." Discussed by Dr. Julius H. Hess, Chicago.

Dr. Hugh McCulloch, St. Louis, read a paper on "Studies of the Effect of Diphtheria Toxin on the Heart." Discussed by Drs. Richard S. Eustis, Boston, and Fritz B. Talbot, Boston.

Dr. Thomas D. Parke, Birmingham, Ala., read a paper on "Intramuscular Blood Injections as Nutritional Aids." Discussed by Dr. Fritz B. Talbot, Boston.

Dr. Robert E. Farr, Minneapolis, read a paper on "Local Anesthesia in Infancy and Childhood." Discussed by Drs. Martin B. Tinker, Ithaca, N. Y.; Edgar J. Huenekens, Minneapolis, and Robert E. Farr, Minneapolis.

Dr. William Weston, Columbia, S. C., moved that the thanks of the section be returned to the officers of this section, and to Dr. Laurence R. DeBuys and the other members of the profession in New Orleans, who had contributed so generously toward the success of this meeting. Seconded and carried.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

Wednesday, April 28—Morning

The meeting was called to order at 9:15 by the chairman, Dr. George W. McCoy, Washington, D. C.

Dr. George W. McCoy read the chairman's address.

Dr. Cary Eggleston, New York, read a paper on "Clinical Observations on the Absorption of Digitalis." Discussed by Drs. Henry A. Christian, Boston; Leonard G. Rowntree, Minneapolis, and Cary Eggleston, New York.

Drs. Frederick M. Allen, J. W. Mitchell and J. W. Sherrill, New York, presented a paper on "The Treatment of Combined Diabetes and Nephritis." Discussed by Drs. George Norris, Philadelphia; Leonard G. Rowntree, Minneapolis, and F. M. Allen, New York.

Dr. Henry A. Christian, Boston, read a paper on "Deficiences in Our Methods of Treatment of Chronic Nephritis." Discussed by Drs. Lewellys F. Barker, Baltimore; George Dock, St. Louis; Nelson W. Janney, Santa Barbara, Calif.; Eugene S. Kilgore, San Francisco, and Henry A. Christian, Boston.

The chairman appointed a nominating committee consisting of Drs. J. T. Halsey, New Orleans, chairman; F. M. Allen, New York, and George B. Roth, Washington, D. C.

In the absence of the other members of the executive committee, the chairman appointed Drs. Leonard G. Rowntree, Minneapolis, and Carl Voegtlin, Washington, D. C., to serve with himself on that committee.

The standard rules of the section were read. It was moved and seconded that the rules be adopted as printed and made effective at once. Carried.

Thursday, April 29—Afternoon

A joint meeting was held with the Section on Dermatology. For a report of the proceedings, see the minutes of that section.

Friday, April 30—Morning

The meeting was called to order at 9:05 by the chairman, Dr. George W. McCoy, Washington, D. C.

The following officers were elected: chairman, Leonard G. Rowntree, Minneapolis; vice chairman, Carl Voegtlin, Washington, D. C.; secretary, Cary Eggleston, New York (continued); alternate delegate, Robert A. Hatcher, New York; executive committee, W. A. Bastedo, New York; George W. McCoy, Washington, D. C., and L. G. Rowntree, Minneapolis.

Lewis E. Warren, Chicago, and Robert P. Fishelis, Philadelphia, were elected to Associate Fellowship.

Drs. Leonard G. Rowntree, Albert M. Snell and Frances Ford, Minneapolis, presented a paper on "Factors Affecting the Basal Metabolic Rate." Discussed by Drs. Nelson W. Janney, Santa Barbara, Calif.; H. S. Plummer, Rochester, Minn.; B. C. Lockwood, Detroit, and L. G. Rowntree, Minneapolis.

Drs. Gerardo M. Balboni and Paul D. White, Boston, presented a paper on "Clinical Observations on the Digitalis-Like Action of Squills." Discussed by Drs. J. T. Halsey, New Orleans; Cary Eggleston, New York, and G. M. Balboni, Boston.

Drs. Carl Voegtlin and Homer W. Smith, Washington, D. C., presented a paper on "Quantitative Studies in Chemotherapy." Discussed by Drs. George B. Roth, Gleason C. Lake and Carl Voegtlin, Washington, D. C.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Wednesday, April 28—Afternoon

The meeting was called to order at 2:15 by the secretary, Dr. J. J. Moore, Chicago. In the absence of the regular chairman, Dr. Howard T. Karsner, Cleveland, Dr. E. R. Le Count, Chicago, was appointed temporary chairman.

Dr. Benjamin Taylor Terry, Nashville, Tenn., read a paper on "Increasing the Pathologist's Usefulness and Rewards." Discussed by Drs. William C. MacCarty, Rochester, Minn., and B. T. Terry, Nashville, Tenn.

Drs. Joseph Goldberger and George A. Wheeler, Washington, D. C., presented a paper on "Experimental Pellagra in White Male Convicts."

Dr. James W. Babcock, Columbia, S. C., read a paper on "Review of the Recent Reports on Pellagra." These two papers were discussed by Drs. Martin F. Engman, St. Louis; Marcus Haase, Memphis, Tenn.; D. W. Kelly, Winnfield, La.; A. A. Herold, Shreveport, La.; Joseph Goldberger, Washington, D. C., and James Babcock, Columbia, S. C.

Dr. Ludvig Hektoen, Chicago, read a paper on "The Toxic Substances Produced by Hemolytic Streptococci." Discussed by Drs. E. R. Le Count, Chicago; Clyde Brooks, Columbus, Ohio, and Ludvig Hektoen, Chicago.

Drs. Clyde Brooks and Albert M. Bleile, Columbus, Ohio, presented a paper on "Recent Advances in Clinical Blood Pressure Measurement." Discussed by Dr. E. S. Kilgore, San Francisco, and Clyde Brooks, Columbus, Ohio.

Dr. William S. Carter, Galveston, Texas, read a paper on "An Experimental Study of Acidosis Produced by Ether Anesthesia." No discussion.

It was moved, seconded and carried that the following applicants be accepted for associate membership: Thesle T. Job, Oak Park, Ill.; Frank P. McNamara, New Haven, Conn., and James W. Jobling, Nashville, Tenn.

It was moved, seconded and carried that the following foreign guests be admitted to honorary membership: Norman Walker, Edinburgh, Scotland; Col. H. J. Waring, London; Sir Humphry D. Rolleston, London; Dr. E. E. Desmarest, Paris; Dr. Gustave Roussy, Paris; Dr. Jules Voncken, Liége, Belgium, and Dr. Iwaho Tsuchiya, Tokyo, Japan.

It was moved, seconded and carried that the standard rules for the section be adopted as printed.

In the absence of the official executive committee, Drs. D. J. Davis, E. R. Le Count and Ludvig Hektoen, all of Chicago, were asked to serve as a committee.

Thursday, April 29—Afternoon

The meeting was called to order at 2:10 by the secretary, Dr. J. J. Moore, Chicago. Dr. D. J. Davis, Chicago, was asked to serve as temporary chairman.

Dr. James H. Black, Dallas, Texas, read a paper on "The Development of the Bactericidal Power of Whole Blood and of Antibodies in the Serum." Discussed by Dr. D. J. Davis, Chicago.

Dr. D. J. Davis, Chicago, read a paper on "Some Characteristics of Certain Epidemic Micro-Organisms." No discussion.

Dr. Kenneth M. Lynch, Charleston, S. C., read a paper on "Penetration of the Intestine and Formation of Abdominal Abscess by Endameba Histolytica. No discussion.

Dr. Carleton Dederer, Bay City, Mich., read a paper on "Transplantation of the Kidney and Ovary." Discussed by Drs. V. D. Lespinasse, Chicago; William C. MacCarty, Rochester, Minn.; Clyde Brooks, Columbus, Ohio, and Carleton Dederer, Bay City, Mich.

Dr. William C. MacCarty, Rochester, Minn., read a paper on "A Mathematical Terminology for Neoplasia." Discussed by Drs. D. J. Davis, Chicago; Carleton Dederer, Bay City, Mich., and William C. MacCarty, Rochester, Minn.

Dr. Louis A. Turley, Norman, Okla., read a paper on "Chronic Nephritis with Special Reference to the Interstitial Form." Discussed by Dr. Robert H. Blackman, Shreveport, La.

Friday, April 30—Afternoon

The meeting was called to order at 2:10 by the secretary, Dr. J. J. Moore, Chicago. Dr. F. F. Russell, Washington, D. C., was appointed temporary chairman.

The nominating committee, consisting of Drs. A. M. Moody, Chicago, and F. S. Graves, Louisville, Ky., reported the following nominations: Chairman, Dr. E. R. Le Count, Chicago; vice chairman, Dr. William S. Carter, Galveston, Texas; secretary, Dr. J. J. Moore, Chicago, and delegate, Dr. James Ewing, New York. On motion duly made and seconded they were declared elected.

Dr. Ward T. Burdick, Denver, read a paper on "The Wassermann Reaction: Prolonged Incubation in the Icebox Versus a Short Period Over the Water Bath." Discussed by Drs. John A. Kolmer, Philadelphia; C. C. Bass, New Orleans, and Ward Burdick, Denver.

Dr. A. M. Moody, Chicago, read a paper on "Bacterial Vaccines, Their Uses and Abuses." Discussed by Drs. G. W. McCoy, Washington, D. C.; James H. Black, Dallas, Texas; H. J. Nichols, Washington, D. C.; J. J. Moore, Chicago; Herman Spitz, Nashville, Tenn., and A. M. Moody, Chicago.

Dr. F. Stuart Graves, Louisville, Ky., read a paper on "The Value of the Postmortem Wassermann Reaction." Discussed by Drs. A. M. Moody, Chicago; Ward Burdick, Denver; R. G. Owen, Detroit; F. F. Russell, Washington, D. C.; John A. Kolmer, Philadelphia; F. M. Johns, New Orleans, and F. S. Graves, Louisville, Ky.

Dr. John J. Seelman, Milwaukee, read a paper on "Observations on the Quantitative Nature of Complement Fixation." Discussed by Drs. Frank J. Hall, Kansas City, Mo.; Ward Burdick, Denver; F. S. Graves, Louisville, Ky.; W. C. Jones, Birmingham, Ala., and J. J. Seelman, Milwaukee.

Drs. W. Warner Watkins and Clarence N. Boynton, Phoenix, Ariz., presented a paper on "The Complement Fixation Reaction in Tuberculosis." Discussed by Drs. Ward Burdick, Denver; W. H. Harris, New Orleans; F. M. Johns, New Orleans; W. O. Jones, Birmingham, Ala.; Frank J. Hall, Kansas City, Mo., and W. Warner Watkins, Phoenix, Ariz.

SECTION ON NERVOUS AND MENTAL DISEASES

WEDNESDAY, APRIL 28—MORNING

The meeting was called to order by the vice chairman, Dr. Arthur S. Hamilton, Minneapolis.

On motion by Dr. C. R. Woodson, St. Joseph, Mo., carried, Drs. Hugh T. Patrick, Chicago; Karl A. Menninger, Topeka, Kan., and Edward L. Hunt, New York, were appointed as a committee to draft suitable resolutions on the death of Dr. Elmer E. Southard, and report at a subsequent session.

Drs. Ross Moore, Los Angeles; William A. Jones, Minneapolis, and Roy M. Van Wart, New Orleans, were appointed to act on the executive committee.

Dr. Arthur S. Hamilton, Minneapolis, read the chairman's address, entitled "Some Changes in the Nervous System in Pernicious Anemia, Especially Sensory Changes."

Dr. Edmund Jacobson, Chicago, read a paper on "Reduction of Nervous Irritability and Excitement by Progressive Relaxation." Discussed by Drs. Tom A. Williams, Washington, D. C.; Hyman Climenko, New York, and Edmund Jacobson, Chicago.

Dr. Gustave Roussy, professor of medicine, University of Paris, France, was introduced by Dr. Hugh T. Patrick, Chicago. In response to the cordial welcome extended, Professor Roussy expressed his pleasure in being present on this occasion and in meeting with the great American Medical Association, whose name is so well known in France. He expressed pleasure concerning the close association of American and French neurologists which has been brought about through the war, and voiced the desire that the relations of French and American institutions might continue—that the French might come to American colleges and learn of us, and we go to their educational institutions and learn of them, and so cultivate that broad spirit which makes for the best relations between nations.

Dr. Karl A. Menninger, Topeka, Kan., read a paper on "Influenza and Feeblemindedness." Discussed by Drs. Andrew L. Skoog, Kansas City, Mo.; Hyman Climenko, New York; Oscar J. Raeder, Boston; Tom A. Williams, Washington, D. C.; C. F. Neu, Indianapolis, and Karl A. Menninger, Topeka, Kan.

Dr. Sanger Brown, Chicago, read a paper on "Outline of a Scheme for Writing the Natural History of Syphilis." Discussed by Drs. C. R. Woodson, St. Joseph, Mo., and Sanger Brown, Chicago. In concluding his paper, Dr. Brown introduced and moved the adoption of the subjoined preambles and resolutions:

WHEREAS, The deleterious effects of syphilis on the mortality and morbidity of the human race are so prevalent and so severe as to challenge the most serious attention of the medical profession; and

WHEREAS, In the scientific study of any disease, knowledge of its natural history is a matter of cardinal importance; and

WHEREAS, Owing to the protracted course of syphilis, a continuous, complete clinical record of a given case can be secured only through the services of several successive medical observers; and

WHEREAS, It is highly desirable that a sufficient number of completed histories be accumulated and preserved and made easily accessible to students; and

WHEREAS, For the successful accomplishment of the purpose set forth above, the interest and cooperation of the best elements of our profession as represented in the membership of the American Medical Association are necessary; therefore, be it

Resolved, That the Section on Nervous and Mental Diseases of the American Medical Association recognizes the importance of ascertaining the natural history of syphilis and of making the history accessible for the information of students of medicine; and be it further

Resolved, That the Section on Nervous and Mental Diseases of the American Medical Association respectfully requests the trustees of the American Medical Association to appoint a committee from the sections most immediately concerned whose duty it should be to devise practical means and methods of accomplishing the foregoing specified purpose; and be it further

Resolved, That the representatives of the section in the House of Delegates be requested to present these preambles and resolutions to the House of Delegates and to ask its endorsement.

See minutes of the House of Delegates.

Dr. Hugh T. Patrick, Chicago, moved the adoption of the resolutions. Motion seconded by Dr. W. S. Lindsay, Topeka, Kan., and unanimously carried.

The following members were appointed to act as the nominating committee: Drs. George A. Moleen, Denver; Frank R. Fry, St. Louis, and Walter Timme, New York.

Dr. William A. Jones, Minneapolis, read a paper on "Discussion of Therapeutic Agents in Chronic Nervous Diseases." Discussed by Drs. Frank R. Fry, St. Louis; Ross Moore, Los Angeles; C. R. Woodson, St. Joseph, Mo.; Hyman Climenko, New York; W. T. Williamson, Portland, Ore., and William A. Jones, Minneapolis.

Dr. Frank R. Fry, St. Louis, read a paper on "Congenital Facial Paralysis: Two Additional Cases." No discussion.

THURSDAY, APRIL 29—MORNING

The section was called to order by the chairman at 9:30.

Dr. Julius Grinker, Chicago, read a paper on "Experiences with Luminal in Epilepsy." Discussed by Drs. George A. Moleen, Denver; Marvin L. Graves, Galveston, Texas; Andrew L. Skoog, Kansas City, Mo.; David S. Booth, St. Louis; E. Bates Block, Atlanta, Ga.; F. B. Wynn, Indianapolis; Roy M. Van Wart, New Orleans, and Julius Grinker, Chicago.

Dr. Hugh T. Patrick, Chicago, presented the report of the committee appointed to draft resolutions on the death of Dr. Elmer E. Southard, as follows:

WHEREAS, Dr. Elmer E. Southard, who one year ago was elected chairman of the Section on Nervous and Mental Diseases of the American Medical Association and should have presided at this session, has been removed by death: and

WHEREAS, Dr. Southard was a trained pathologist, a gifted neurologist, an able psychiatrist, an author of distinction, a brilliant teacher, a genial companion and a loyal friend; therefore be it

Resolved, That in the death of Dr. Southard the medical profession and especially the departments of neurology and psychiatry have suffered an irreparable loss: and be it further

Resolved, That the members of this section extend to the family of Dr. Southard their profound sympathy.

On motion duly seconded and carried, the foregoing preambles and resolutions were adopted by the section.

Dr. Oscar J. Raeder, Boston, read a paper on "Endocrine Imbalance in the Feebleminded." Discussed by Drs. Tom A. Williams, Washingtong, D. C.; Gustave Roussy, Paris, France; Walter Timme, New York; M. A. Bliss, St. Louis; Andrew L. Skoog, Kansas City; Karl A. Menninger, Topeka, Kan., and Oscar J. Raeder, Boston.

Dr. I. Leon Meyers, Chicago, read a paper on "The Physiologic Significance of the Babinski Toe Response." Discussed by Drs. Andrew L. Skoog, Kansas City; Tom A. Williams,

Washington, D. C.; Gustave Roussy, Paris, France; M. A. Bliss, St. Louis, and I. Leon Meyers, Chicago.

FRIDAY, APRIL 30—MORNING

The meeting was called to order at 9:30 by the chairman.

The following officers were elected for the ensuing year: chairman, Dr. Arthur S. Hamilton, Minneapolis; vice chairman, Dr. Walter Timme, New York; secretary, Dr. Charles W. Hitchcock, Detroit (continued), delegate, Dr. Hugh T. Patrick, Chicago.

Drs. Isador Abrahamson and Hyman Climenko, New York, presented a paper on "Symptomatology of Spinal Cord Tumors with Illustrative Cases." Discussed by Drs. Julius Grinker, Chicago; Alfred W. Adson, Rochester, Minn.; A. L. Skoog, Kansas City, Mo.; Karl A. Menninger, Topeka, Kan.; M. A. Bliss, St. Louis; George A. Moleen, Denver; Tom A. Williams, Washington, D. C., and Hyman Climenko, New York.

Dr. Tom A. Williams, Washington, D. C., read a paper on "The Causes of Emotivity and Their Management." Discussed by Drs. Julius Grinker, Chicago; David S. Booth, St. Louis; Hyman Climenko, New York; Karl A. Menninger, Topeka, Kan.; C. F. Neu, Indianapolis; Ross Moore, Los Angeles; G. H. Benton, Miami, Fla.; Gustave Roussy, Paris, France; George A. Moleen, Denver, and Tom A. Williams, Washington, D. C.

Dr. A. L. Skoog, Kansas City, Mo., read a paper on "Measles: Brain Complications." Discussed by Drs. Karl A. Menninger, Topeka, Kan., and A. L. Skoog, Kansas City.

Dr. E. Bates Block, Atlanta, Ga., read a paper on "The Relation of Worms to Epilepsy." Discussed by Drs. Julius Grinker, Chicago; David S. Booth, St. Louis; Hyman Climenko, New York; Martin L. Graves, Galveston, Texas; Tom A. Williams, Washington, D. C., and E. Bates Block, Atlanta.

Dr. Edward Livingston Hunt, New York, read a paper on "Encephalitis Lethargica." Discussed by Drs. Frank R. Fry, St. Louis; Julius Grinker, Chicago; Tom A. Williams, Washington, D. C.; Ross Moore, Los Angeles; Hyman Climenko, New York; George A. Moleen, Denver; Oscar J. Raeder, Boston; A. L. Skoog, Kansas City, Mo.; Roy M. Van Wart, New Orleans; Albert Woldert, Tyler, Tenn., and David S. Booth, St. Louis.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

WEDNESDAY, APRIL 28—MORNING

The meeting was called to order at 9:35 by the chairman, Dr. James A. Hayne, Columbia, S. C.

Dr. James A. Hayne, Columbia, S. C., read the chairman's address, entitled "The Rights of the Child."

Dr. Erwin A. Peterson, Washington, D. C., read a paper on "What the American Red Cross Can Contribute to the General Health Program." Discussed by Drs. J. W. Schereschewsky, Washington, D. C.; Philip King Brown, San Francisco; John D. McLean, Harrisburg, Pa.; John P. Davin, New York; C. W. Goddard, Austin, Texas; E. Luther Stevens, St. Augustine, Fla., and Erwin A. Peterson, Washington, D. C.

Dr. Frederick L. Hoffman, Newark, N. J., read a paper on "Mortality and Incidence of Leprosy Throughout the World." Discussed by Drs. Isadore Dyer, New Orleans; J. W. Schereschewsky, Washington, D. C.; G. C. Chandler, Shreveport, La.; John P. Davin, New York; Hiram Byrd, University, Miss.; S. W. Welch, Montgomery, Ala.; A. T. McCormack, Louisville, Ky.; V. G. Heiser, New York, and Frederick L. Hoffman, Newark, N. J.

Dr. A. T. McCormack, Louisville, Ky., read the following resolution and moved that it be accepted and presented to the House of Delegates:

WHEREAS, Leprosy is a national menace; therefore, be it

Resolved, That the House of Delegates be requested to ask that the American Public Health Association shall call a national conference to discuss every phase of the problem to the end that the public may be educated to the insidious spread of the disease, the possibility of cure or arrestation in the earliest stage of the disease, and the necessity of segregation.

Motion carried. (See minutes of the House of Delegates.)

Dr. Carroll Fox, Washington, D. C., read a paper on "Minimum Standards of Organization for Municipal Health Departments." Discussed by Drs. G. C. Chandler, Shreveport, La.; Walter H. Brown, Washington, D. C.; A. T. McCormack, Louisville, Ky., and Carroll Fox, Washington, D. C.

Dr. J. A. Watkins, Cincinnati, read a paper on "The Training of Industrial Physicians." Discussed by Drs. J. W. Schereschewsky, Washington, D. C., and Edward Martin, Philadelphia.

The chairman appointed Drs. A. T. McCormack, Louisville, Ky., and John W. Kerr, New York, on the Executive Committee to take the places of Drs. Otto P. Geier, Cincinnati, and W. S. Rankin, Raleigh, N. C.

THURSDAY, APRIL 29—MORNING

Dr. Charles M. Abbott, Alexandria, La., read a paper on "The Carrier Question in Epidemic Meningitis and Diphtheria." Discussed by Drs. L. I. Lobenhoffer, Alexandria, La.; H. J. Nichols, Washington, D. C.; G. W. McCoy, Washington, D. C.; C. A. Earle, Des Plaines, Ill.; A. Parker Hitchins, Indianapolis, and Charles M. Abbott, Alexandria, La.

Dr. Luther A. Riser, Columbia, S. C., read a paper on "Typhoid Reduction in South Carolina: Results in Counties with Health Organization." Discussed by Drs. W. S. Leathers, University, Miss.; J. D. McLean, Harrisburg, Pa.; G. C. Chandler, Shreveport, La.; John A. Ferrell, New York, and Luther A. Riser, Columbia, S. C.

Dr. J. W. Schereschewsky, Washington, D. C., read the following resolution and moved that it be accepted and presented to the House of Delegates:

WHEREAS, The National Tuberculosis Association, through investigations of its Committee on Indigent Migratory Consumptives, covering the last fifteen months, has found:

That there is a large migration of indigent consumptives to the Southwest in search of health;

That out of 1,786 patients, largely indigent or potentially indigent, reported from the Southwest in the last six months, 783, or 41.3 per cent., had been definitely advised to go there by physicians;

That this migration of indigent and potentially indigent consumptives is ill advised in that it causes much needless suffering and loss of life brought on by inadequate care, worry, homesickness and lack of proper food, which are conditions too frequently experienced after arrival; and furthermore,

That the migration of this group is a menace to the public health, both during migration and after arrival, and is a financial drain and social burden to the communities to which the migration goes. Therefore be it

Resolved, That in order to check this unnecessary and undesirable migration, physicians throughout the country be not only requested but urged *not* to advise their tuberculosis patients to migrate to the health resort states, unless such patients have sufficient funds to properly provide for their necessary care and comforts for at least one year.

Dr. Alexander Lambert, New York, presented the following amendment to the foregoing resolution, which amendment was accepted by Dr. J. W. Schereschewsky, Washington, D. C.:

Resolved, That the Section on Preventive Medicine and Public Health hereby requests the House of Delegates to instruct the Council on Health and Public Instruction to investigate and report at the next annual meeting the migration of consumptives from one state to the other throughout the Union, and the number of indigents so foisted on one state by another, and report definite suggestions to prevent this constant undesirable migration.

The resolution, as amended, was duly seconded and carried. (See minutes of the House of Delegates.)

Dr. Lewis A. Conner, New York, read a paper on "Heart Disease as a Public Health Problem." Discussed by Drs. Alexander Lambert, New York; G. C. McKinney, Lake Charles, La.; William H. Mercier, Pittsburgh; John P. Davin, New York; B. A. Ledbetter, New Orleans, and Lewis A. Conner, New York.

Dr. Lunsford D. Fricks, Memphis, Tenn., read a paper on "Eradication of Malaria: A National Health Problem." Discussed by Drs. Graham E. Hensen, Jacksonville, Fla.; A. E. Chace, Texarkana, Ark.; C. C. Bass, New Orleans; W. S. Leathers, University, Miss.; J. W. Schereschewsky, Washington, D. C.; John A. Ferrell, New York; John P. Davin, New York, and Lunsford D. Fricks, Memphis, Tenn.

Dr. John McMullen, Louisville, Ky., read a paper on "Trachoma: A Public Health Problem of the States." Discussed by Dr. Arthur T. McCormack, Louisville, Ky.

Dr. J. Wilkerson Jervey, Greenville, S. C., read a paper on "The Differential Diagnosis of Conjunctival Folliculosis and Trachoma." These two papers were discussed by Drs. Henry Dickson Bruns, New Orleans; Theodore E. Oertel, Augusta, Ga.; James A. Hayne, Columbia, S. C.; Walter H. Brown, Washington, D. C.; S. W. Welch, Montgomery, Ala.; G. Golseth, Jamestown, N. D.; J. G. South, Frankfort, Ky.; John F. Hogan, Baltimore; Hiram Woods, Baltimore; John McMullen, Louisville, Ky., and J. Wilkerson Jervey, Greenville, S. C.

The chairman appointed the following nominating committee: Drs. C. St. Clair Drake, Springfield, Ill.; C. C. Bass, New Orleans; and A. T. McCormack, Louisville, Ky.

FRIDAY, APRIL 30—MORNING

The followlng officers were elected for the ensuing year: chairman, John D. McLean, Harrisburg, Pa.; vice chairman, C. D. Selby, Toledo, Ohio; secretary (three years), W. S. Leathers, University, Miss., and delegate, James A. Hayne, Columbia, S. C.

Dr. W. A. Sawyer, Rochester, N. Y., read a paper on "Industrial Epidemiology." Discussed by Drs. A. E. Chace, Texarkana, Ark.; John P. Davin, New York; James R. Bean, Birmingham, Ala.; S. W. Welch, Montgomery, Ala., and W. A. Sawyer, Rochester, N. Y.

Dr. A. E. Chace, Texarkana, Ark., read the following resolution and moved that it be accepted and presented to the House of Delegates:

Resolved, That the Section on Preventive Medicine and Public Health condemns the contract entered into by the United States Railroad Administration with railroad employees, whereby physical examination of applicants for employment is prohibited, and that it recommends to the House of Delegates the adoption of some resolution condemning in terms that cannot be mistaken the entering into of a contract with any labor organization prohibiting physical examination.

(Not transmitted to the House of Delegates.)

Dr. E. Luther Stevens, St. Augustine, Fla., presented the following amendment to the foregoing resolution, and moved its adoption:

Resolved, That a committee be appointed to investigate the question raised in the above resolution and report the result of its investigations at the first session of the Section on Preventive Medicine and Public Health at the next annual meeting of the American Medical Association.

The amendment was accepted by Dr. A. E. Chace, Texarkana, Ark., and carried.

Dr. Norman Walker of Edinburgh, Scotland, and Sir Humphry D. Rolleston of the Royal College of Physicians of London, England, who were in attendance at the annual meeting of the American Medical Association, were extended the privileges of the floor of this section.

Dr. Lloyd Noland, Birmingham, Ala., read a paper on "The Work of the Department of Health of the Tennessee Coal, Iron and Railroad Company." Discussed by Drs. S. W. Welch, Montgomery, Ala.; Walter C. Jones, Birmingham, Ala., and Oscar Dowling, New Orleans.

Dr. Grover C. McKinney, Lake Charles, La., read a paper on "The Difficulties of Public Health Administration." Discussed by Drs. G. C. Chandler, Shreveport, La.; James A. Hayne, Columbia, S. C.; H. F. White, Washington, D. C.; T. J. Howells, Salt Lake City; Milton Board, Louisville, Ky.; Mayer A. Newhauser, New Orleans; W. S. Leathers, University, Miss.; W. D. Calvin, Fort Wayne, Ind.; S. W. Welch, Montgomery, Ala.; John P. Davin, New York; Oscar Dowling New Orleans, La., and Grover C. McKinney, Lake Charles, La.

Dr. Florence L. Meredith, New York, read the following resolution and moved it be accepted and presented to the House of Delegates:

WHEREAS, The number of graduates from medical schools in 1919 is reported to be nearly 900 short of the minimum estimated by the Carnegie Foundation as being necessary to carry on adequately the medical work of the country; and

WHEREAS, The growth of public health work calls for an increased number of doctors; and

WHEREAS, Women doctors have proved successful in preventive medicine and public health work; be it

Resolved, That the Section on Preventive Medicine and Public Healthi endorse efforts to enroll women as students in medical schools, and especially recommend to their attention the field of preventive medicine and public health.

After discussion by Drs. Milton Board, Louisville, Ky.; C. C. Bass, New Orleans; W. S. Leathers, University, Miss., and Florence L. Meredith, New York, the motion was carried.

(Not transmitted to the House of Delegates.)

Dr. William Elder, New Orleans, read a paper on "The Necessity for the Reporting of Venereal Disease by Physicians." Discussed by Drs. Oscar Dowling, New Orleans; A. E. Chace, Texarkana, Ark.; W. D. Calvin, Fort Wayne, Ind.; Milton Board, Louisville, Ky.; Hardie R. Hays, North Carrollton, Miss.; H. F. White, Washington, D. C., and William Elder, New Orleans.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

WEDNESDAY, APRIL 28—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr. Oliver S. Ormsby, Chicago.

Dr. Oliver S. Ormsby, Chicago, read the chairman's address, entitled "A Valuable Method of Employing Arsphenamin in Syphilis."

Dr. William A. Pusey, Chicago, presented the following preambles and resolutions on behalf of Dr. Sanger Brown, Kenilworth, Ill., who has in contemplation an effort to establish a bureau for the standardization of the histories of syphilis so that the end-results may be collated:

WHEREAS, The deleterious effects of syphilis on the mortality and morbidity of the human race are so prevalent and so severe as to challenge the most serious attention of the entire medical profession; and,

WHEREAS, In the scientific study of any disease, knowledge of its natural history is an item of cardinal importance; and

WHEREAS, Owing to the protracted course of syphilis, continuous and complete clinical record of a given case can be secured only through the services of several successive medical observers; and

WHEREAS, It is highly desirable that a sufficient number of completed histories be accumulated and preserved, and made easily accessible to students; and,

WHEREAS, For the successful accomplishment of the purpose set forth above, the interest and cooperation of a considerable number of the best elements of our profession as represented in the membership of the American Medical Association are necessary, therefore be it

Resolved, (1) That the Section on Dermatology and Syphilology recognizes the importance of ascertaining the natural history of syphilis and of making this history accessible and in form serviceable to students of medicine; further

Resolved, (2) That the Section on Dermatology and Syphilology respectfully requests the trustees of the American Medical Association to appoint a committee from the sections most immediately concerned, whose duty it shall be to devise practical means and methods of accomplishing the foregoing specified purpose; and further,

Resolved, (3) That the representatives of this section in the House of Delegates be requested to present these preambles and resolutions to the House of Delegates, and to ask its endorsement.

Dr. Pusey moved that these resolutions be adopted and transmitted to the House of Delegates as the expression of the opinion of those in attendance at this meeting. Seconded by Dr. Richard L. Sutton, Kansas City, Mo., and several others. Carried.

(See minutes of the House of Delegates.)

The chairman appointed a nominating committee consisting of Drs. Howard Morrow, San Francisco; William H. Mook, St. Louis, and Henry R. Varney, Detroit.

The following papers were read as a symposium on "Syphilis":

Dr. B. Barker Beeson, Chicago: "Polyneuritis Plus Dermatitis Exfoliativa Following Neo-Arsphenamin."

Dr. George M. Olson, Minneapolis: "Arsphenamin Dermatitis."

Drs. Harold N. Cole and Sidney Littman, Cleveland: "A Study of the Absorption of Mercury Injections by Means of the Roentgen Ray."

Dr. Paul A. O'Leary, Rochester, Minn.: "The Value of the Provocative Wassermann Test in the Diagnosis of Obscure Syphilis."

These four papers were discussed by Drs. Richard L. Sutton, Kansas City, Mo.; Arthur W. Stillians, Chicago; Augustus Ravogli, Cincinnati; Samuel E. Sweitzer, Minneapolis; William H. Mook, St. Louis; Howard Morrow, San Francisco; Ernest L. McEwen, Chicago; William Allen Pusey, Chicago; F. W. Cregor, Indianapolis; John H. Stokes, Rochester, Minn.; Walter J. Highman, New York; W. D. Calvin, Fort Wayne, Ind.; I. L. McGlasson, San Antonio, Texas; B. Barker Beeson, Chicago, and Harold N. Cole, Cleveland.

Dr. Howard Fox, New York, and D. J. Edgar Fisher, Pittsburg, presented a paper on "Protein Sensitization in Eczema." Discussed by Drs. John H. Stokes, Rochester, Minn.; Walter J. Highman, New York, and Norman Walker, Edinburgh, Scotland.

Dr. Richard L. Sutton, Kansas City, Mo., read a paper on "Infectious Eczematoid Dermatitis." Discussed by Drs. Francis E. Senear, Chicago; Augustus Ravogli, Cincinnati; Everett S. Lain, Oklahoma City; Ernest L. McEwen, Chicago; Harold N. Cole, Cleveland; William A. Quinn, Chicago; J. N. Roussel, New Orleans; William H. Mook, St. Louis; M. J. Farber, St. Joseph, Mo., and Richard L. Sutton, Kansas City, Mo.

Drs. Jerome Kingsbury and Paul E. Bechet, New York, presented a paper entitled "Venipuncture as an Occasional Adjuvant in the Treatment of Certain Diseases of the Skin." Discussed by Drs. John H. Stokes, Rochester, Minn.; William Allen Pusey, Chicago; Augustus Ravogli, Cincinnati; F. W. Cregor, Indianapolis; Howard Fox, New York, and Paul E. Bechet, New York.

Thursday, April 29—Afternoon

A joint meeting was held with the section on Pharmacology and Therapeutics. The meeting was called to order at 2 o'clock by the chairman of the Section on Dermatology and Syphilology, Dr. Oliver S. Ormsby, Chicago.

The following papers were read as a symposium on "Arsphenamin":

Dr. George W. Raiziss, Philadelphia: "The Chemical Composition of Arsphenamin and Neo-Arsphenamin and Its Relation to Toxicity."

Drs. John A. Kolcer and Baldwin Lucke, Philadelphia: "The Pathology of Arsphenamin and Neo-Arsphenamin Intoxication: An Experimental Study."

Dr. George B. Roth, Washington, D. C.: "Some Salient Facts Regarding the Toxicity of Arsphenamin and Neo-Arsphenamin."

Dr. John H. Stokes, Rochester, Minn.: "Therapeutic Applications and Limitations of the Arsphenamins."

Dr. Joseph A. Elliott, Charlotte, N. C.: "Effects of Arsphenamin on Renal Function in Syphilitic Patients."

Drs. Henry J. Nichols and Mathew A. Reasoner, Washington, D. C.: "The Use of Arsphenamin in Nonsyphilitic Diseases."

Dr. Dudley D. Stetson, New York: "Report on the Use of a Permanent Solution of Arsphenamin."

These seven papers were discussed by Drs. William Allen Pusey, Chicago; William H. Guy, Pittsburgh; Richard L. Sutton, Kansas City, Mo.; Augustus Ravogli, Cincinnati; Ernest L. McEwen, Chicago; Charles M Williams, New York; George W. McCoy, Washington, D. C.; Harold N. Cole, Cleveland; Julius Grinker, Chicago; Alec N. Thomson, Brooklyn; J. N. Roussel, New Orleans; Marion H. Foster, Alexandria, La.; Otto Lowy, Newark, N. J.; M. J. Farber, St. Joseph, Mo.; Arthur W. Stillians, Chicago; W. D. Calvin, Fort Wayne, Ind.; Walter J. Highman, New York; Paul E. Bechet, New York; George P. Lingenfelter, Denver; Cary Eggleston, New York; W. T. Watson, Baltimore; George W. Raiziss, Philadelphia; John A. Kolmer, Philadelphia; George B. Roth, Washington, D. C.; John H. Stokes, Rochester, Minn.; Dudley D. Stetson, New York, and Major Henry J. Nichols, Washington, D. C.

Friday, April 30—Afternoon

The meeting was called to order at 2 o'clock by the chairman, Dr. Oliver S. Ormsby, Chicago.

The following officers were elected for the ensuing year: chairman, Dr. Walter J. Highman, New York; vice chairman, Dr. Everett S. Lain, Oklahoma City; secretary, Dr. Harold N. Cole, Cleveland; delegate, Dr. Howard Fox, New York.

The following papers were presented as a symposium on "New Growths":

Dr. Everett S. Lain, Oklahoma City: "A Clinical Study of Epitheliomas of the Lower Lip."

Dr. Charles M. Williams, New York: "Malignant Degeneration of Benign Dermatoses."

Dr. Earl D. Crutchfield, Galveston, Texas: "Malignant Tumors of the Skin."

Dr. Erwin F. Smith, Washington, D. C.: "Production of Tumors in the Absence of Parasites."

Dr. George E. Pfahler, Philadelphia: "The Treatment of Keloid and Hypertrophied Scars by Radiotherapy Alone or Combined with Excision."

These five papers were discussed by Drs. Norman Walker, Edinburgh, Scotland; William C. MacCarty, Rochester, Minn.; John E. Lane, New Haven, Conn.; Augustus Ravogli, Cincinnati; William H. Guy, Pittsburgh; J. H. King, Nashville, Tenn.; Richard L. Sutton, Kansas City, Mo.; Harold N. Cole, Cleveland; Howard Morrow, San Francisco; George E. Pfahler, Philadelphia; Everett S. Lain, Oklahoma City; Charles M. Williams, New York; Earl D. Crutchfield, Galveston, Texas, and Erwin F. Smith, Washington, D. C.

Drs. Samuel E. Sweitzer and Henry E. Michelson, Minneapolis, presented a paper on "Acidosis in Skin Diseases." Discussed by Drs. Richard L. Sutton, Kansas City, Mo.; Augustus Ravogli, Cincinnati, and Samuel E. Sweitzer, Minneapolis.

Dr. Francis E. Senear, Chicago, read a paper on "Lichen Spinulosus and Folliculitis Decalvans: A Clinical Combination." Discussed by Drs. J. H. King, Nashville, Tenn.; F. W. Cregor, Indianapolis; Walter J. Highman, New York; Oliver S. Ormsby, Chicago, and Francis E. Senear, Chicago.

Dr. Ernest L. McEwen, Chicago, read a paper on "The Association of Herpes Zoster and Varicella." Discussed by Drs. Oliver S. Ormsby, Chicago; Everett S. Lain, Oklahoma City; George P. Lingenfelter, Denver; J. H. King, Nashville; Walter J. Highman, New York; Richard L. Sutton, Kansas City, Mo., and Ernest L. McEwen, Chicago.

Dr. Lyle B. Kingery, Ann Arbor, Mich., read a paper on "The Histogenesis of Molluscum Contagiosum." Discussed by Drs. J. H. King, Nashville; Walter J. Highman, New York, and Lyle B. Kingery, Ann Arbor, Mich.

SECTION ON UROLOGY

Wednesday, April 28—Morning

The meeting was called to order at 9:20 by the chairman, Dr. William E. Lower, Cleveland.

Dr. Lower read the chairman's address, entitled "Disposition of the Ureter in Surgical Conditions of the Bladder Involving the Ureteral Orifices."

Dr. Benjamin A. Thomas, Philadelphia, read a paper on "The Treatment of Bladder Tumors with Analysis of Cases," and gave a demonstration of slides and instruments.

Drs. Walter E. Sistrunk and E. Starr Judd, Rochester, Minn., presented a paper on "Results of Surgical Treatment of Tumors of the Bladder."

These two papers were discussed by Drs. B. C. Corbus, Chicago; Victor D. Lespinasse, Chicago; Arthur B. Cecil, Los Angeles; Abraham Hyman, New York; Henry J. Scherck, St. Louis; Arthur H. Curtis, Chicago; James A. Gardner, Buffalo; Herman L. Kretschmer, Chicago; George E. Pfahler, Philadelphia; Albert E. Goldstein, Baltimore; H. W. E. Walther, New Orleans; A. J. Crowell, Charlotte, N. C.; Benjamin A. Thomas, Philadelphia, and Walter E. Sistrunk, Rochester.

Dr. Percy E. McCown, Indianapolis, read a paper on "Papillomatous Epithelioma of Kidney Pelvis." Discussed by Drs. W. F. Braasch, Rochester, Minn.; C. M. Harpster

Toledo, Ohio; W. E. Stevens, San Francisco; Abraham Hyman, New York; Herman L. Kretschmer, Chicago; Albert E. Goldstein, Baltimore; William E. Lower, Cleveland, and Percy E. McCown, Indianapolis.

The chairman appointed Drs. Harry A. Fowler, Washington, D. C., and Courtney W. Shropshire, Birmingham, to fill the vacancies on the executive committee caused by the absence of Drs. Hugh Cabot, Ann Arbor, Mich., and Edward L. Keyes, New York.

THURSDAY, APRIL 29—MORNING

The meeting was called to order at 9:10 by the chairman.

The chairman appointed the following nominating committee: Drs. James A. Gardner, Buffalo; W. F. Braasch, Rochester, Minn., and Carl L. Wheeler, Lexington, Ky.

Dr. Arthur B. Cecil, Los Angeles, read a paper on "Abdominal Pain in Diseases of the Kidney and Ureters." Discussed by Drs. William E. Stevens, San Francisco; W. F. Braasch, Rochester, Minn.; Harry A. Fowler, Washington, D. C.; Abraham Hyman, New York; Albert E. Goldstein, Baltimore; William E. Lower, Cleveland, and Arthur B. Cecil, Los Angeles.

Drs. Herman L. Kretschmer and Henry F. Helmholz, Chicago, presented a paper on "Studies of Pyelitis in Infancy." Discussed by Drs. W. F. Braasch, Rochester, Minn.; I. L. Van Zandt, Fort Worth, Texas; Marcell Hartwig, Los Angeles; Abraham Hyman, New York; Henry J. Scherck, St. Louis; Arthur B. Cecil, Los Angeles; William E. Stevens, San Francisco; B. C. Willis, Rocky Mount, N. C., and Herman L. Kretschmer, Chicago.

Drs. Abraham Hyman and Edwin Beer, New York, presented a paper on "Nephrectomy: Based on the Record of 250 Cases." Discussed by Dr. Arthur B. Cecil, Los Angeles.

Dr. Albert E. Goldstein, Baltimore, read a paper on "Ureteral Obstruction and Dilatation in the Male." Discussed by Drs. H. W. E. Walther, New Orleans; W. F. Braasch, Rochester, Minn.; Abraham Nelken, New Orleans; James A. Gardner, Buffalo; Herman L. Kretschmer, Chicago; C. M. Harpster, Toledo; Abraham Hyman, New York; A. J. Crowell, Charlotte, N. C., and Albert E. Goldstein, Baltimore.

Dr. William F. Braasch, Rochester, Minn., read a paper on "Occluded Renal Tuberculosis." Discussed by Drs. Joseph Hume, New Orleans; Herman L. Kretschmer, Chicago; Henry McClure Young, St. Louis; A. J. Crowell, Charlotte, N. C.; Harry A. Fowler, Washington, D. C., and W. F. Braasch, Rochester, Minn.

Dr. Ernest M. Watson, Buffalo, read a paper on "Developmental Factors in the Formation of Certain Vesical Diverticula." Discussed by Drs. Victor D. Lespinasse, Chicago; William E. Lower, Cleveland, and Ernest M. Watson, Buffalo.

FRIDAY, APRIL 30—MORNING

The meeting was called to order at 9 o'clock by the chairman.

The following officers were elected for the ensuing year: chairman, Dr. Richard F. O'Neil, Boston; vice chairman, Dr. Joseph Hume, New Orleans; secretary (for three years), Dr. Herman L. Kretschmer, Chicago; executive committee, Dr. Edward L. Keyes, Jr., New York; Dr. William F. Braasch, Rochester, Minn., Dr. William E. Lower, Cleveland; delegate, Dr. E. O. Smith, Cincinnati; alternate, Dr. Henry G. Bugbee, New York.

Dr. James A. Gardner, Buffalo, read a paper on "Contraindications to Prostatectomy." Discussed by Drs. Herman L. Kretschmer, Chicago; Arthur B. Cecil, Los Angeles; E. G. Ballenger, Atlanta; Harry A. Fowler, Washington, D. C.; J. J. Gilbride, Philadelphia; A. J. Crowell, Charlotte, N. C.; William E. Lower, Cleveland; Victor D. Lespinasse, Chicago, and James A. Gardner, Buffalo.

Dr. Harry A. Fowler, Washington, D. C., read a paper on "Ulcer of the Bladder—Hunner Type." Discussed by Drs. Arthur B. Cecil, Los Angeles; Loyd Thompson, Hot Springs, Ark.; James A. Gardner, Buffalo; C. M. Harpster, Toledo, Ohio; H. W. E. Walther, New Orleans, and Harry A. Fowler, Washington, D. C.

Dr. George H. Day, Louisville, read a paper on "Urologic and Venereal Idiosyncrasies in the Negro." Discussed by Drs. Thomas M. Paul, St. Joseph, Mo.; G. E. Johnson, Holly Springs, Miss., and Victor D. Lespinasse, Chicago.

Drs. William E. Stevens and Maurice Heppner, San Francisco, presented a paper on "Gonorrhea of the Lower Genito-Urinary Tract in Women, with Special Reference to the Glands of Bartholin." Discussed by Drs. E. G. Ballenger, Atlanta; Herman L. Kretschmer, Chicago; George H. Day, Louisville; Abraham Nelken, New Orleans; A. J. Crowell, Charlotte, N. C., and William E. Stevens, San Francisco.

Dr. E. G. Ballenger, Atlanta, read a paper on "Orchitis from Mumps: Conservation of the Testes by Incision of the Tunica Albuginea." Discussed by Drs. Victor D. Lespinasse, Chicago, and E. G. Ballenger, Atlanta.

Dr. Victor D. Lespinasse, Chicago, read a paper on "Spermatogenesis in Relation to Childlessness." Discussed by Drs. Albert E. Goldstein, Baltimore; A. J. Crowell, Charlotte, N. C., and Dr. Victor D. Lespinasse, Chicago.

SECTION ON ORTHOPEDIC SURGERY

WEDNESDAY, APRIL 28—AFTERNOON

The section was called to order at 2:15 by the vice chairman, Dr. Roland Hammond, Providence, R. I.

In absence of Dr. Emil S. Geist, Minneapolis, a member of the Executive Committee, Dr. Edward S. Hatch, New Orleans, was appointed by the chairman to fill Dr. Geist's place.

Dr. Frank E. Peckham, Providence, R. I., read a paper on "Orthopedic Conditions Directly Due to Sterilized Food in Infancy." Discussed by Drs. Maurice L. Blatt, Chicago; L. C. Spencer, New Orleans; Albert H. Byfield, Iowa City; Gustave Lippmann, St. Louis; J. D. Griffith, Kansas City, Mo., and Frank E. Peckham, Providence, R. I.

Dr. Leo Eloesser, San Francisco, read a paper on "Operations for Repair of Bone Defects: Results Obtained at Letterman General Hospital." Discussed by Drs. Dean F. Winn, Staten Island, N. Y.; Harry M. Sherman, San Francisco; Edwin W. Ryerson, Chicago; Frederick J. Gaenslen, Milwaukee; H. Winnett Orr, Lincoln, Neb.; Philip Lewin, Chicago; B. G. Chollett, Toledo, Ohio; Paul A. McIlhenny, New Orleans, and Leo Eloesser, San Francisco.

Dr. J. Spencer Davis, Dallas, Texas, and Jacob J. Sybenga, Pella, Iowa, presented a paper on "Results of Bone Graft at U. S. Army Hospital No. 3."

Dr. Albert H. Freiberg, Cincinnati, arose to the point of order that the demonstration was in conflict with one of the rules of the American Medical Association, in that the material presented and pictures shown have appeared in a book published by Dr. Frederick H. Albee. The chairman sustained the objection, but ruled that moving pictures of illustrative cases might be shown, any discussion to be limited to these. The film was then presented and discussed by Drs. Paul B. Magnuson, Chicago; L. C. Spencer, New Orleans; Willis C. Campbell, Memphis, Tenn., and J. Spencer Davis, Dallas, Texas.

The following papers were read as a symposium on "Treatment of Infantile Paralysis":

De Forest P. Willard, Philadelphia: "Transverse Horizontal Section of the Tarsus in Paralytic Calcaneus and Flail Foot."

H. Winnett Orr, Lincoln, Neb.: "Indications for and End-Results of Surgical Operations in Infantile Paralysis."

Frederick J. Gaenslen, Milwaukee: "Sling Suspension Method of Exercises in Infantile Paralysis."

These three papers were discussed by Drs. John D. Ridlon, Chicago; Willis K. West, Oklahoma City; Clarence W. East, Springfield, Ill.; George E. Bennett, Baltimore; Frank R. Ober, Boston; Walter G. Stern, Cleveland; Edwin W. Ryerson, Chicago; Albert H. Freiberg, Cincinnati; O. L. Miller, Atlanta, Ga.; R. W. Billington, Nashville, Tenn.; G. D. Marshall, Kokomo, Ind.; Horace R. Allen, Indianapolis;

DeForest P. Willard, Philadelphia; H. Winnett Orr, Lincoln, Neb., and Frederick J. Gaenslen, Milwaukee.

THURSDAY, APRIL 29—AFTERNOON

The section was called to order by the acting chairman at 2:15.

Dr. Wallace Blanchard, Chicago, read a paper on "Anterior Bow-Legs." Discussed by Drs. Willis C. Campbell, Memphis, Tenn., and Wallace Blanchard, Chicago.

Dr. Roland Hammond, Providence, R. I., read the chairman's address, entitled "Constructive Versus Reconstructive Surgery of the Extremities."

Dr. Robert B. Cofield, Cincinnati, read a paper on "Some of the Difficulties in the Diagnosis of Osteosarcoma." Discussed by Drs. Frederick J. Gaenslen, Milwaukee; Melvin S. Henderson, Rochester, Minn.; Harry E. Mock, Chicago; Edwin W. Ryerson, Chicago; J. D. Griffith, Kansas City, Mo.; Harry M. Sherman, San Francisco; Willis C. Campbell, Memphis, Tenn.; Robert Carothers, Cincinnati, and Robert B. Cofield, Cincinnati.

Dr. Walter G. Stern, Cleveland, read a paper on "Dislocation of the Carpal Semilunar Bone." Discussed by Drs. Edward S. Hatch, New Orleans; T. Turner Thomas, Philadelphia; DeForest P. Willard, Philadelphia; Melvin S. Henderson, Rochester, Minn., and Walter G. Stern, Cleveland.

Dr. T. Turner Thomas, Philadelphia, read a paper on "Recurrent Dislocations and Allied Chronic Conditions of the Shoulder." Discussed by Drs. Melvin S. Henderson, Rochester, Minn.; Alfred C. Wood, Philadelphia; John T. O'Ferrall, New Orleans; C. L. Storey, Detroit, and T. Turner Thomas, Philadelphia.

Dr. Albert H. Freiberg, Cincinnati, read a paper on "The Objective Symptoms of Foot Strain." Discussed by Drs. John L. Porter, Chicago; Paul B. Magnuson, Chicago, and Albert H. Freiberg, Cincinnati.

Dr. Horace R. Allen, Indianapolis, read a paper on "Unstandardized Versus Standardized Splints." Discussed by Drs. H. Winnett Orr, Lincoln, Neb.; Frank R. Ober, Boston; R. W. Billington, Nashville, Tenn.; Edwin W. Ryerson, Chicago; John Ridlon, Chicago; C. L. Storey, Detroit, and Horace R. Allen, Indianapolis.

FRIDAY, APRIL 30—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman.

The following officers were elected: chairman, Dr. Melvin S. Henderson, Rochester, Minn.; vice chairman, Dr. H. Winnett Orr, Lincoln, Neb.; secretary, Dr. Henry Bascom Thomas, Chicago (continued); delegate, Dr. John Ridlon, Chicago.

In order to have three members of the executive committee pass on the paper of Dr. Albert H. Freiberg, who is a member of that committee, the chairman appointed Dr. J. P. Lord, Omaha, to pass on this paper.

Dr. John O. Bower, Philadelphia, read a paper on "Operative Treatment of Peripheral Nerve and Associated Bone Lesions in One Stage." Discussed by Drs. Karl W. Ney, Staten Island, N. Y.; L. C. Spencer, New Orleans; Edwin W. Ryerson, Chicago, and John O. Bower, Philadelphia.

The following papers were read as a symposium on "Restoration of the Disabled."

Dr. Harry E. Mock, Chicago: "Reclamation Service for Workmen Permanently Handicapped in Industry."

Dr. Carroll L. Storey, Detroit: "Progress in the Care of Cripples."

These two papers were discussed by Drs. Alfred H. Freiberg, Cincinnati; John T. O'Ferrall, New Orleans; Frank G. Murphy, Chicago; H. Winnett Orr, Lincoln, Neb.; Clarence W. East, Springfield, Ill.; J. D. Griffith, Kansas City, Mo.; Colby W. Rucker, Washington, D. C.; Paul B. Magnuson, Chicago; J. S. Millard, Akron, Ohio; Walter G. Stern, Cleveland; Harry E. Mock, Chicago, and Carroll L. Storey, Detroit.

Dr. Robert D. Schrock, Omaha, read a paper on "Intra-Articular Fractures." Discussed by Drs. Paul A. McIlhenny, New Orleans; Walter G. Stern, Cleveland; Albert H. Freiberg, Cincinnati; Melvin S. Henderson, Rochester, Minn.; Harry M. Sherman, San Francisco; Horace R. Allen, Indianapolis; Edwin W. Ryerson, Chicago; Willis K. West, Oklahoma City, and Robert D. Schrock, Omaha.

Dr. William L. Estes, Jr., South Bethlehem, Pa., read a paper on "The Occurrence and Causes of Functional Scoliosis in College Men." Discussed by Drs. Edwin W. Ryerson, Chicago; Melvin S. Henderson, Rochester, Minn.; Harry M. Sherman, San Francisco, and William L. Estes, Jr., South Bethlehem, Pa.

On motion, carried, a rising vote of thanks was extended to the chairman for the efficient manner in which the meeting had been conducted. Also unanimous vote of thanks was extended to the orthopedic surgeons of New Orleans for the painstaking way in which the details of social and professional entertainment had been carried out.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

WEDNESDAY, APRIL 28—AFTERNOON

The meeting was called to order at 2 p. m. by the chairman, Dr. Frank Smithies, Chicago.

Dr. Frank Smithies, Chicago, read the chairman's address, entitled "The Significance of Etiologic Factors in the Treatment of Peptic Ulcer."

Drs. George Reese Satterlee, New York, and Henry A. Cotton, Trenton, N. J., presented a paper on "Fractional Gastric Analyses." Discussed by Drs. J. Rawson Pennington, Chicago; John J. Gilbride, Philadelphia; W. H. Axtell, Washington, D. C., and George Reese Satterlee, New York.

Dr. J. Rawson Pennington, Chicago, read a paper on "The Differential Diagnosis of Amebiasis, Tuberculosis, Syphilis and Carcinoma, as Manifested in the Rectum and Pelvic Colon." Discussed by Drs. W. H. Stauffer, St. Louis; Sidney K. Simon, New Orleans; Ralph W. Jackson, Fall River, Mass.; John W. Draper, New York; William M. Beach, Pittsburgh; L. J. Hirschman, Detroit, and Frank Smithies, Chicago.

Dr. Edward G. Martin, Detroit, read a paper on "Hemorrhoidectomy: Composite Operation." Discussed by Drs. James A. Duncan, Toledo, Ohio; J. Rawson Pennington, Chicago; John J. Gilbride, Philadelphia, and Edward G. Martin, Detroit.

Dr. James T. Case, Battle Creek, Mich., read a paper on "Diverticula of the Small Intestine Other than Meckel's Diverticulum." Discussed by Drs. L. T. Lewald, New York; L. J. Hirschman, Detroit; A. A. Strauss, Chicago, and James T. Case, Battle Creek, Mich.

Dr. Ernest Clyde Fishbaugh, Los Angeles, read a paper on "Hypotension Headache in Relation to Constipation." Discussed by Drs. Elsworth S. Smith, St. Louis, and Ernest Clyde Fishbaugh, Los Angeles.

Dr. M. Milton Portis, Chicago, read a paper on "Diaphragmatic Hernia Diagnosed During Life." Discussed by Drs. James T. Case, Battle Creek, Mich.; Ernest Clyde Fishbaugh, Los Angeles; W. O. Nisbet, Charlotte, N. C.; F. A. Speik, Los Angeles, and M. Milton Portis, Chicago.

THURSDAY, APRIL 29—AFTERNOON

The chairman announced the appointment of Drs. R. Walter Mills, St. Louis; H. G. Walcott, Dallas, Texas, and J. R. Pennington, Chicago, to act as a nominating committee.

The following papers were read as a symposium on "Gastric and Duodenal Ulcers":

Dr. A. C. Ivy, Chicago: "Further Studies on Gastric and Duodenal Ulcer."

Dr. Elmer L. Eggleston, Battle Creek, Mich.: "Critical Review of Five Hundred Cases of Gastric and Duodenal Ulcer."

Dr. Israel O. Palefski, New York: "Intubation and Visualization of the Duodenum with the Duodenal Tube as a Diagnostic Procedure in Duodenal Ulcer and Periduodenal Adhesions: Summary of Findings of Three Hundred and Sixty-One Established Cases."

Dr. Angelo L. Soresi, New York: "Specialization in the Medical and Surgical Treatment of Ulcer of the Stomach and Duodenum."

These four papers were discussed by Drs. A. J. Ochsner, Chicago; Charles H. Neilson, St. Louis; Sidney K. Simon, New Orleans; J. S. Horsley, Richmond, Va.; Milton M. Portis, Chicago; John J. Gilbride, Philadelphia; J. A. Storck, New Orleans; Alfred A. Strauss, Chicago; J. M. Rector, Columbus, Ohio; A. C. Ivy, Chicago; Elmer L. Eggleston, Battle Creek, Mich.; Israel O. Palefski, New York, and Angelo L. Soresi, New York.

Dr. John W. Draper, New York, read a paper on "What Is Being Done for the Insane by Means of Surgery." Discussed by Drs. A. J. Ochsner, Chicago; Robert T. Morris, New York; Henry A. Cotton, Trenton, N. J.; G. R. Satterlee, New York, and John W. Draper, New York.

FRIDAY, APRIL 30—AFTERNOON

The following officers were elected for the ensuing year: chairman, Louis J. Hirschman, Detroit; vice chairman, H. W. Soper, St. Louis; secretary, Franklin W. White, Boston; delegate, Alois B. Graham, Indianapolis; alternate delegate, Sidney K. Simon, New Orleans.

The chairman announced the appointment of Drs. Anthony Bassler, New York; William M. Beach, Pittsburgh, and Frank Smithies, Chicago, as members of the Executive Committee for the ensuing year.

Dr. William H. Stauffer, St. Louis, read a paper on "Mucous Colitis." Discussed by Drs. Bertha Van Hoosen, Chicago; H. G. Walcott, Dallas, Texas; Louis J. Hirschman, Detroit; J. Rawson Pennington, Chicago; Sidney K. Simon, New Orleans; Ralph W. Jackson, Fall River, Mass.; J. M. Rector, Columbus, Ohio; Frank Smithies, Chicago, and William H. Stauffer, St. Louis.

Dr. J. Russell Verbrycke, Jr., Washington, D. C., read a paper on "Modification of Intestinal Flora." Discussed by Drs. Frank Smithies, Chicago, and J. Russell Verbrycke, Jr., Washington, D. C.

Dr. William S. Newcomet, Philadelphia, read a paper on "Arthritic Changes in the Spine and Their Relation to the Roentgenologic Study of the Gastro-Intestinal Tract." Discussed by Drs. Julius Grinker, Chicago; E. H. Skinner, Kansas City, Mo., and William S. Newcomet, Philadelphia.

Dr. Edward H. Skinner, Kansas City, Mo., read a paper on "The Roentgenology of the Appendix: The Significance of the Opaque Filling in Chronic Appendicitis." Discussed by Drs. R. Walter Mills, St. Louis; Marsh Pitzman, St. Louis; D. F. Jones, Boston; W. H. Stewart, New York; Israel D. Palefski, New York, and Edward H. Skinner, Kansas City, Mo.

REPORT OF THE COMMITTEE ON AWARDS

Your committee recommends the following awards:

To Dr. Edmond Souchon, a gold medal, for admirably prepared anatomic specimens.

To the Medical Department, U. S. Army, a silver medal for an exhibit of pathologic preparations, excellent in appearance and highly instructive.

To Dr. Victor D. Lespinasse, a certificate of merit, for interesting and suggestive experiments on spermatogenesis and sterility.

To Dr. Martin H. Fisher, a certificate of merit for an extensive display of soap preparations in relation to colloid chemistry.

In view of the grave importance of venereal disease and the fundamental need for diffusing information regarding the dangers of these diseases to the individual and to the race, the committee wishes to commend the exhibits presented this year showing methods of sex education and to express the hope that such exhibits may be elaborated and made more prominent features of the Scientific Exhibit in the future.

W. B. CANNON,
H. H. CHRISTIAN,
E. R. LECOUNT.

REGISTRATION AT NEW ORLEANS

The total registration at the New Orleans Session was 3,681. Below are given two summaries, one by sections and one by states:

REGISTRATION BY SECTIONS

Practice of Medicine	1,160
Surgery, General and Abdominal	857
Obstetrics, Gynecology and Abdominal Surgery	230
Ophthalmology	218
Laryngology, Otology and Rhinology	207
Diseases of Children	152
Pharmacology and Therapeutics	25
Pathology and Physiology	62
Stomatology	30
Nervous and Mental Diseases	92
Dermatology and Syphilology	69
Preventive Medicine and Public Health	108
Urology	103
Orthopedic Surgery	66
Gastro-Enterology and Proctology	69
Registrations without specifying any one section	233
Total	3,681

REGISTRATION BY STATES

	Number		Number
Alabama	184	Nevada	2
Arizona	12	New Hampshire	1
Arkansas	94	New Jersey	13
California	59	New Mexico	2
Colorado	33	New York	121
Connecticut	7	North Carolina	50
Delaware	1	North Dakota	9
District of Columbia	57	Ohio	134
Florida	46	Oklahoma	78
Georgia	100	Oregon	8
Idaho	2	Pennsylvania	108
Illinois	264	Rhode Island	8
Indiana	62	South Carolina	33
Iowa	78	South Dakota	6
Kansas	35	Tennessee	149
Kentucky	68	Texas	394
Louisiana	693	Utah	5
Maine	4	Vermont	1
Maryland	15	Virginia	26
Massachusetts	40	Washington	10
Michigan	72	West Virginia	18
Minnesota	76	Wisconsin	56
Mississippi	257	Wyoming	2
Missouri	124	Foreign countries	27
Montana	4		
Nebraska	33	Total	3,681

The Digestibility of Foods.—Two factors largely determine the digestibility and absorption of foods in the process of digestion: The first is the bulk; the second is the cellulose content. The bulkiness of vegetable food interferes with digestion in two ways. The digestive juices have difficulty in penetrating such a mass so that the conversion of the constituents into products capable of absorption is apt to be quite inefficiently carried out, and the large mass has a tendency to hasten the intestinal peristalsis, the contents of the gut are thus pushed forward too rapidly; and even were digestion more complete, the absorption could not keep pace with the food movement. The presence of cellulose is the second great factor in the retardation of digestion and absorption. In the case of meat, the nutritive constituents are held in tubes composed of gelatin which readily digest; in the case of vegetables, the starch is contained in cubical compartments with walls of cellulose. Cellulose is a carbohydrate, belongs to the class of polysaccharids, and is especially characterized by its extraordinary insolubility. From this it can be seen that the presence of cellulose influences digestion and absorption in several ways. It not only has little or no food value of itself, but it prevents the access of digestive juices to the mass of food in the stomach, and it prevents the juices penetrating to the individual starch cells. Further, by increasing the mass to such an extent it has a tendency to stimulate the intestinal movements and hasten the progress of the food.—C. C. Mason, *Bull. Johns Hopkins Hosp.*, March, 1920.

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SATURDAY, MAY 15, 1920

TAKAKI'S WORK IN BERIBERI

The announcement of the death in Tokyo of Baron K. Takaki, former inspector general of the Japanese navy, recalls his classic experiences in eradicating beriberi among the sailors by change in diet. He had long been familiar with the disease among groups of Japanese, and he recalled that some years before he entered the navy of his country in 1872, many deaths from it had been observed by his father. Even at that time the cause of beriberi was attributed by some to food, and the provision box was called the beriberi box.[1]

In his early medical experience in the navy, Takaki encountered a large number of patients suffering and dying from beriberi. In 1875 and later they frequently constituted three fourths of the whole number of persons in the naval hospital. After prolonged studies in Europe, Takaki returned to Japan in 1880 only to find conditions unchanged with respect to a scourge that threatened to destroy the efficiency of the Japanese navy. In 1883 a careful examination of the hygienic conditions of ships, barracks, schools, etc., belonging to the Japanese navy disclosed that they were much alike everywhere, except for the item of food. In this there were great variations in different places. Finding that the rations in some posts contained much carbohydrate with relatively little protein, and being of the opinion that a man requires 20 gm. of nitrogen, that is, 135 gm. of protein, a day, for proper physiologic maintenance, Takaki came to think that beriberi is caused by the disproportion of nitrogenous and non-nitrogenous components of the diet. The former were regarded as insufficient, the latter as excessive in the objectionable rations.

Takaki's proposals to change the old dietary system in which rice, rich in carbohydrate and poor in protein, predominated were regarded as extremely radical, and met great opposition. After investigation of the cruise of the training ship *Ruijo* on which 169 cases of beriberi with twenty-five deaths occurred among 276 men during 272 days, permission was granted to institute a trial of the new ration, including milk and meat, on a cruise over the same route in the *Tsukuba*. In the course of a 287 days' voyage only four cadets and ten men were attacked by beriberi, and on investigation it was found that all of these had refused to eat certain parts of the ration provided, such as condensed milk and meat. When the good report of the experimental voyage of the *Tsukuba* became known, all opposition to the reformed ration was withdrawn, and it at once went into general effect.

The upshot of Takaki's work had been to show that although the sanitary conditions in the Japanese navy were not inferior to those in other navies at the same time, beriberi had been rampant. This disease had not broken out in ships of European nations sent to the Orient, exposed to the same climatic conditions, and performing similar duties. But the Japanese ate rice almost exclusively, omitting the bread and meat furnished to others. The diet reforms promptly produced beneficent effects. At the time referred to there were frequent objections to the validity of Takaki's theory of protein starvation as the explanation of the etiology of beriberi. This is no longer tenable in the light of recent investigations. As Vedder has stated, there cannot be a shadow of a doubt that beriberi was reduced in the Japanese navy as a result of a change of diet.

This change consisted in a reduction of the amount of rice consumed and an increase of meat, fish, vegetables, including beans, and the addition of milk and flour. What Takaki did, however, from the standpoint of present-day knowledge is to reintroduce, into a dietary largely made up of polished rice poor in antineuritic vitamin, articles of food which supply the deficiency. He neither removed a hypothetic infection, as many had contended, nor merely enriched the diet in protein; Takaki improved the physiologic quality of the ration of the navy. His experiences form an interesting chapter in the history of diet in relation to disease.

1. This and other details are quoted from Vedder, E. B.: Beriberi, New York, William Wood & Co., 1913.

GAS CYSTS OF THE ABDOMEN

Gas cysts in the abdomen have long been known to occur in animals, particularly the hog; but it was not until 1876 that Bang published the first description of these lesions in a human being. Since that time sixty-six cases have been described in the literature, and only recently have the anatomic details been developed. The development and course of this condition are such that it may occur more often than is generally supposed. The lesions have a characteristic macroscopic appearance: Gas cysts may occur generally throughout the abdomen, multiple, disseminated, most commonly in the small intestine, mesentery and omentum, varying in size from the head of a pin to a plum, and containing an odorless, nonirritating gas

made up of combinations of hydrogen, carbon, oxygen and nitrogen. Occasionally the cysts are grouped into a mass the size of a fist, causing pressure on the surrounding viscera. Palpation gives a crackling similar to that of an emphysema. The various descriptions of the size, location and character of the cysts are considered by Tuffier and Letulle [1] to be due to the fact that the observers have encountered the disease at different stages.

In the small intestine the cysts may be found in the submucous and subserous layers with a wall of dense fibroid tissue, poor in fixed cells and blood vessels, in which elastic fibers appear, but no smooth muscle. The lumen is bounded by a layer of endothelial and multinucleated giant cells, and a characteristic thick fluid is sometimes present in the dependent part of the cavity. Accompanying changes in the wall of the intestine indicate the presence of a long standing chronic inflammation. In all cases it is noted that the cysts lie in a definite relation to a lymphatic vessel which has been partially or totally obliterated.

It is this relationship of cyst, cicatrix and lymph vessel that has led Letulle,[2] from whose articles much of this information is taken, to the conclusion that the cysts have their origin in obstruction to the flow of lymph by a chronic obliterating lymphangitis which is a part of a rather generalized chronic inflammatory process. The origin of the gas is not so clear. At present there are two views: the one, infectious, attributing the gas to a small liquefying coccus or to *B. coli;* the other, mechanical, a complication of a chronic obliterating lymphangitis with stagnation of lymph and subsequent change to gas under pressure. The details of this transformation are not worked out, and it is far from clear why, as has been frequently observed, there is such a rapid disappearance of the cysts after the abdomen is opened; Kadyan, however, operated on the same patient three times in five months, and noticed each time a new eruption of cysts. Karsner, reporting on the pathology of Sloan's [3] case, suggests that "the condition is a subacute or chronic interstitial emphysema of the gut," the gas entering from without by way of an ulcer and being carried distally by peristaltic action. However, this does not account for the presence of the gas cysts in the peritoneum and omentum.

There is no characteristic symptomatology, the condition being encountered in all cases, thus far, unexpectedly or accidentally. Gastro-intestinal disturbances, such as nausea, vomiting, diarrhea and acute intestinal obstruction, have been produced by the mechanical action of the cysts. Of the instances collected by Lenormant,[4] twenty-one were diagnosed at necropsy and thirty-six at operation, and it is the belief of Moreau [5] that only through the use of the roentgen ray can the condition be identified before operation.

It is interesting to note that frequently this disease is associated with other lesions of the gastro-intestinal tract, particularly ulcer of the stomach. There are, of course, many questions in regard to gas cysts not yet explained, but the condition should be recognized more often in this country. It appears that three cases have been reported.[3]

1. Tuffier, T., and Letulle, Maurice: Sur une maladie caractérisée par des kystes gazeux de l'abdomen, Bull. de l'Acad. de méd. **82**: 5 (July 1) 1919.

2. Letulle, Marice: Les kystes gazeux de l'intestin et du péritoine, Bull. de l'Acad. de méd. **82**: 315 (Nov. 18) 1919; Presse méd., Dec. 20, 1919.

3. Sloan, H. G.: Gas Cysts of Intestine, Surg., Gynec. & Obst. **30**: 339, 1920.

4. Lenormant, C.: Kystes gazeux de l'abdomen, Presse méd. **28**: 104 (Feb. 7) 1920.

5. Moreau: Sur un cas d'hépatoptose par interposition avec kystes gazeux de l'intestin; examen radiologique vérifié par l'intervention, Arch. d'electr. méd. **27**: 393 (Sept.) 1917.

6. Experimental Lobar Pneumonia, editorial, J. A. M. A. **74**: 1168 (April 24) 1920.

7. Blake, F. G., and Cecil, R. L.: Studies on Experimental Pneumonia, I, Production of Pneumococcus Lobar Pneumonia in Monkeys, J. Exper. Med. **31**: 403 (April) 1920; II, Pathology and Pathogenesis of Lobar Pneumonia in Monkeys, ibid., p. 445.

THE MECHANISM OF RECOVERY FROM LOBAR PNEUMONIA

A perusal of the medical literature of only a few years ago in comparison with present-day writings on the subject of pneumonia will give convincing evidence of the marked strides that have been made in the recent study of this important malady. Lately it has been the etiologic classification of the disease types that has been foremost in the consideration of clinicians. This, of course, has involved a better understanding of the bacteriology of pneumonia, on the one hand, and an investigation of corresponding therapeutic or prophylactic measures, on the other. Pneumonia has been produced experimentally in animals by the introduction of pure bacterial cultures into the bronchi. Although much has been learned from such studies, they have not been conclusive in their applicability to the conditions observed in the disease of man.

A review of the present status of studies in experimental pneumonia, recently published in THE JOURNAL,[6] indicates that lobar pneumonia is bronchiogenic in character. Invasion of the blood stream by pneumococci is secondary to the introduction of the micro-organisms into the lower respiratory tract. A true lobar pneumonia cannot be produced by subcutaneous or even intravenous introduction of the pneumococcus into the system, although a septicemia may develop under such circumstances. In their studies of the disease in monkeys, Blake and Cecil [7] have observed pneumococcus septicemia persisting after the pneumonia crisis and resolution; likewise cases of unresolved pneumonia in which the pneumococci had entirely disappeared from the blood yet which resulted in death.

Such experiences have suggested that more than one factor may be involved in the mechanism of recovery from lobar pneumonia. In the escape from the general

infection an immunity mechanism of a humoral sort is undoubtedly involved. The possible rôle of circulating antibodies is admitted. But as the prevention or termination of the general infection does not always coincide with recovery from the local processes with resolution of the pneumonic consolidation, it seems highly probable that the latter may depend in part at least on something other than humoral immunity —than antibodies. Perhaps, as Blake and Cecil propose, the crisis and resolution of the pneumonic process may be due to local biochemical changes in the course of which, as suggested by Lord,[8] the acid death point of the pneumococcus is reached. If so, final recovery from lobar pneumonia may involve a dual mechanism, and future considerations of the pro problem must keep the possible significance of the two factors distinctly in mind. One concerns most directly the local pulmonary lesion; the other is important as well for the secondary general infection by the pneumococcus.

Current Comment

DUST AND PHTHISIS

Dust inhaled is popularly regarded as a source of danger to the organism, particularly by predisposing to pulmonary tuberculosis. Experience has demonstrated, however, that not all dusts are to be put into a common category. If there are no benevolent dusts, some at least seem to be far less deadly than others, although all forms of them enter the lungs. Investigations made in South Africa have demonstrated, for example, that a condition known as pneumonoconiosis results from dust particles setting up cell proliferation which ends in the production of dense connective tissue. The latter occurs first in nodules which may subsequently coalesce, obliterating large portions of air-containing vesicles. Sufferers from this condition are peculiarly liable to pulmonary tuberculosis, as miner's phthisis and potter's rot. Some dusts, notably soot and coal dust, appear, however, to be comparativly harmless. An attempt to explain this has been made by Mavrogordato [9] in a report to the British Medical Research Committee in London. It appears that marked differences appear in the readiness with which different kinds of dust are eliminated from the lung tissue. Some produce a marked initial reaction, with much shedding of epithelium. In these shed cells, coal and shale are promptly removed, so that they do not set up processes which block the lymphatics. On the other hand, flue dusts and silica are taken up by cells which tend to remain in situ and form plaques which appear early and persist. They become the sites of fibrosis. From the current investigations it further appears that dusts, like coal, which produce an initial reaction tend to carry out with them the more inert kinds of particles. The dusts which make most mischief appear to be those tending to accumulate rather than to be promptly eliminated. Corper [10] has found a correlation between these facts and the effect of lamp black and pulverized glass, respectively, on the acceleration of experimental tuberculosis in the guinea-pig. Glass, which resembled the quartz dusts, had a markedly accelerating influence, whereas the carbon particles likewise injected subcutaneously coincident with tubercle bacilli exhibited a retarding effect. Whether this beneficent outcome is due to some inherent antiseptic property introduced with the coal or soot or to a biologic reaction cannot be stated at present. However, the facts help to explain why "phthisis is not as common among coal miners as among the ordinary population in spite of the marked amount of anthracosis developed in the lungs from the inhaled dust."

8. Lord, F. T.: J. Exper. Med. **30**: 389 (Oct.) 1919.
9. Mavrogordato, A.: Experiments on the Effects of Dust Inhalations, J. Hyg. **17**: 439 (Oct.) 1918.

COUNTING BLOOD PLATELETS

To most physicians the blood platelets are known merely as structural elements present along with the familiar erythrocytes and leukocytes in the blood. Beyond this, the existence of these somewhat irregular particles carries no special significance to most clinicians not specially trained in the methods of hematology. This is doubtless due in large measure to the difficulties that have attended the accurate estimation of the occurrence of the platelets in specimens of blood, as well as to the lack of knowledge which still enshrouds their origin, fate and functions. The content of the other formed elements or corpuscles of the blood is now readily ascertained with considerable exactness, and the significance of high or low "counts" in relation to various pathologic conditions is well understood. It is not surprising, however, that confusion and uncertainty exists in the case of the platelets; for at present the statements as to their normal occurrence in blood show figures varying as much as 300 to 400 per cent., namely, from 200,000 to 800,000 per cubic millimeter of blood. Part of the difficulty thus recorded is attributable to the labile character of these structures. Unless specially conserved, they disintegrate with great readiness in shed blood. The actual counting of the "third corpuscular elements" of the blood has encountered additional obstacles, which need not be recounted here. Lately a new technic, developed by Thomsen [11] for counting the platelets in citrated plasma has been made the subject of special investigation by Gram [12] in Faber's clinic at Copenhagen. The method appears to be more reliable than any other at present in vogue; by it the majority of the determinations show platelet counts between 300,000 and 450,000 per cubic millimeter. Although in normal persons the number rarely falls below 300,000, the more extreme range for seemingly healthy persons may be put at from 200,000 to 500,000 per cubic millimeter of blood. There have been frequent attempts in the past to correlate aberrant platelet counts with hemorrhagic diseases of various types.

10. Corper, H. J.: Further Attempts to Reduce the Resistance of the Guinea-Pig to Tuberculosis, Am. Rev. Tuberc. **3**: 605 (Dec.) 1919.
11. Thomsen, O.: Hospitalstidende **62**: 161 (Feb. 5) 1919.
12. Gram, H. C.: On the Platelet Count and Bleeding Time in Diseases of the Blood, Arch. Int. Med. **25**: 325 (March) 1920.

Thus, the platelets have long been assumed to be associated in some way with the clotting of the blood. Gram has observed, in accord with this, that when the platelet count falls below 100,000 per cubic millimeter the "bleeding time," determined by Duke's well known method, tends to be prolonged; that is, the blood clots more slowly than usual. The platelets are diminished in number in pernicious anemia, in most cases of lymphatic leukemia, and in some cases of myeloid leukemia. Normal values are found in hemophilia, and augmented values are found in many cases of simple anemia and some of myeloid leukemia. According to Gram, the counting of the platelets and determination of the bleeding time is of extreme importance as a preoperative measure, especially in cases of aplastic anemia, in which an operation often is performed for explorative purposes, on suspicion of occult cancer.

CALCIUM METABOLISM IN LEPROSY

Destructive processes of various sorts are sequelae of leprous invasion of the body. Among such changes, necrosis resulting in the loss of pieces of bone and atrophy of osseous structures may occur. The consequences are exhibited in the altered mineral metabolism observed in leprosy, as has recently been demonstrated by Underhill, Honeij and Bogert[1] in an unusually elaborate series of examinations on leprous patients at the Yale University School of Medicine. Compared to normal persons under the same dietary conditions, such patients retain calcium in relatively large quantities, whether they are maintained on a calcium-poor or a calcium-rich diet; and the greater the intake of calcium, the greater is the relative retention. In the more advanced stage of the disease, the degree of retention is greater than in the early phase. There is likewise a positive balance in the case of magnesium in the advanced stages of leprosy, although the retention of this element is much less marked than that of the more conspicuous bone-forming calcium. According to Underhill and his colleagues, the retention of calcium is the expression of a metabolic demand—a need induced by the loss of bone-salt in the disease. Hence they suggest that quite likely in dietary conditions in which calcium is not particularly abundant, the lack of this element may be an important factor in the rapidity of the progress of the disease; for this may be greatly retarded, or perhaps even alleviated, if an abundance of calcium is present in the diet.

1. Underhill, F. P.; Honeij J. A., and Bogert, L. J.: Calcium and Magnesium Metabolism in Certain Diseases, Proc. Nat. Acad. Sc. 6: 79 (Feb.) 1920.

CHIROPRACTIC—LUX ON SUBLUXATIONS

Members of the medical profession have long been at a loss to know just what "chiropractic" is. They know what "chiropractors" are, but "chiropractic"—that has been a mystery! It remained for the Senate and General Assembly of the State of New Jersey to elucidate. An Act to Regulate the Practice of Chiropractic recently signed by the Governor of New Jersey gives to a palpitating medical world this vital information. Here is the opening paragraph of the act:

DEFINITION OF CHIROPRACTIC: The term chiropractic when used in this act shall be construed to mean and be the name given to the study and application of a universal philosophy of biology, theology, theosophy, health, disease, death, the science of the cause of disease and art of permitting the restoration of the triune relationships between all attributes necessary to normal composite forms, to harmonious quantities and qualities by placing in juxtaposition the abnormal concrete positions of definite mechanical portions with each other by hand, thus correcting all subluxations of the articulations of the spinal column, for the purpose of permitting the recreation of all normal cyclic currents through nerves that were formerly not permitted to be transmitted, through impingement, but have now assumed their normal size and capacity for conduction as they emanate through intervertebral foramina—the expressions of which were formerly excessive or partially lacking—named disease.

Lucidity itself! The New Jersey legislature said, "Let there be light on Chiropractic"—and, behold, it became the "art of permitting the restoration of the triune relationships between all attributes necessary to normal composite forms, to harmonious quantities and qualities . . ." Simplicity to the *n*th power. Bring on your Einstein theory—the New Jersey solons may oblige with a snappy definition.

ENFORCED TEMPERANCE IN EUROPE

The advocates of prohibition are already beginning to marshal statistics as to the result of the abolition of the liquor traffic on the welfare of the nation. It will not be easy to establish the relation of cause and effect in the various phenomena of change in which benefit or disadvantage may be claimed. The altered social and economic conditions following the war have brought about new conditions of living and standards of conduct the precise effect of which on the people of the United States remains to be clearly ascertained. However, in the matter of restriction of the consumption of alcohol, if not its entire prohibition, this country has not stood entirely alone in recent years. During the war our allies and the enemy country restricted the manufacture of alcoholic beverages; and the neutrals surrounding the Central Empires did likewise. A curtailment has, moreover, followed not only through legal restrictions on sales which confined public drinking to certain hours and places, but also as the direct result of scarcity and high prices which made purchases difficult. This has been particularly true of the strongly alcoholic beverages, like brandy. The benefits of temperance to the thousands of men in the armies can scarcely be debated. An elaborate investigation made by a commission of scientists and clinicians for the German government and published in 1919[1] affords interesting conclusions for the civilian population of a country accustomed to liberal indulgence in alcoholic drinks. It appears, particularly

1. Welchen Einfluss hat der während des Krieges innerhalb der bürgerlichen Bevölkerung verminderte Alkoholgenuss auf die geistige und körperliche Gesundheit des Volkes gehabt? Beratung der erweiterten Wissenschaftlichen Deputation für das Medizinalwesen am 20 September, 1919, im Ministerium für Volkswohlfahrt zu Berlin, Vrtljschr. f. gerichtl. Med. 59: 1 (Jan.) 1920.

from the report of Professor Partsch, that in Prussia, as a result of restricted drinking, there was an extraordinary decrease of chronic alcoholism and the mental disorders attendant on it. Related bodily illnesses were also diminished. The decrease in psychic maladies was widespread, not being confined to any portion of the empire. The report finds special occasion to note the restoration of former chronic drunkards in many cases to an economically useful career. Contrary to what is alleged by some of the defenders of alcohol in this country—on what basis we do not know—the habitual use of morphin or cocain is not interpreted by the Prussian medical commission as the outcome of restriction in the availability of alcohol. It insists that the desire for strong alcoholic stimulants among the population has by no means become suppressed. Only the excessive cost and the restricted supplies are believed to stand in the way of a return to former habits, now that peacetime conditions are being restored abroad. If temperance enforced by the exigencies of a war has in truth exercised a highly beneficent influence on the nations, the problem of retaining its essential benefits is surely one worthy of consideration in any propaganda for the public health.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

University of Southern California Suspends Medical Teaching.—By a unanimous vote, the trustees of the University of Southern California, on April 13, decided to temporarily suspend the medical department because of inadequate endowment with which to maintain it.

Botulism a Reportable Disease.—Under date of April 9, the secretary of the state board of health issued a bulletin declaring botulism a reportable disease, and requesting physicians to make prompt reports of this disease to the local health officers and asking also that information be sent concerning probable causative food factors.

Personal.—Dr. Albrecht O. Eckardt, Downieville, health officer of Sierra County for several years, has been appointed resident physician for the Claymath Indian Reservation with headquarters near Claymath Falls.——Dr. Frank P. Gray, G. M. Stratton and Dr. Emanuel C. Fleischner of the faculty of the University of California have been given leave of absence for portions of this and next year.

San Francisco Physicians to Fight Medical Law Changes.—At a meeting of the San Francisco County Medical Association, held April 13, plans were made to fight, in the coming general election, the following issues which the organization considers would be letting down the bars to unscientific systems of medicine: an initiative measure to establish an independent board of chiropractic examiners; referendum on the drug law to give osteopaths the right to prescribe drugs; antivivisection legislation, and efforts to lower medical certificate requisites.

DISTRICT OF COLUMBIA

Gift for Howard Medical School.—It is announced that Howard University School of Medicine, Washington, has been promised $250,000 by the general education board, provided the medical school succeeds in raising the rest of a total sum of $500,000.

Medical Society Against Unlicensed Anesthetists.—At a recent largely attended meeting of the Medical Society of the District of Columbia a resolution was adopted after animated debate putting the society on record as in favor of the limitation of the practice of anesthesia to regularly licensed physicians and surgeons and dentists, and graduate nurses in cases of emergency or medical students for purposes of instruction. This action was prompted by the recent substitution in certain of the local hospitals of salaried resident anesthetists for the physician anesthetists connected with the medical staff, the new appointees being nurses specially trained in anesthesia work.

Cornerstone Laid of Medical Society Building.—On May 6 the cornerstone of the new home of the Medical Society of the District of Columbia was laid. The ceremonies were presided over by Dr. Charles W. Richardson, the stone being laid by the officers of the society, the president, Dr. Francis R. Hagner, spreading the mortar. Addresses were made by Dr. Hagner, Dr. Wilfred M. Barton, Dr. Joseph S. Wall and Dr. John B. Nichols. Dr. Tom A. Williams also made a short address in presentation of a handsome donation from a friend whom he had interested in the project. The building is located at 1716-1718 M Street N.W. It is hoped that it will be ready for occupancy in November. When complete, the medical society will possess a handsome, commodious and comfortable home, which will also be a distinct addition to the architectural beauties of Washington.

ILLINOIS

Tuberculosis Clinics.—The second of the series of free tuberculosis clinics will be held at the court house, Edwardsville, May 26, under the auspices of the Madison County Medical Society. Dr. George T. Palmer, Springfield, will be in charge of the clinic.

Sanatorium Opened.—Adams County has recently opened a tuberculosis sanatorium at Quincy with a capacity of twenty-five patients. It is under the charge of Dr. Harry C. Worthington, formerly senior physician to the Cook County Tuberculosis Hospital, Oak Forest.

Tri-City Officers Elected.—The Tri-City Medical Society held its annual meeting, April 15, and elected Dr. Benjamin H. King, president; Dr. Alfred E. Everett, vice president; Dr. Hugo C. H. Schroeder, secretary, and Dr. Frank O. Johnson, treasurer, all of Granite City.

Chicago

Hospital Journal Moves.—The *Modern Hospital* has announced the removal of its editorial and business offices to the Modern Hospital Building, 22-24 East Ontario Street.

Ricketts Prize Awarded.—The Howard Taylor Ricketts Prize of the University of Chicago for 1920 has been awarded to Ivan C. Hall for his work on "Studies in Anaerobiology." This prize is awarded annually on May 3, the anniversary of the death of Dr. Ricketts from typhus fever, while engaged in work on this disease in Mexico City in 1910.

Anthrax Outbreak.—Six cases of anthrax were reported during the first week in May with five deaths. The disease is believed to have been contracted through infected horse hair received from Russia and Argentina, last winter. The Chicago Curled Hair Factory, among the employees of which this disease occurred, was closed by the health department, May 5.

INDIANA

Personal.—Dr. Carleton B. McCulloch, Indianapolis, was nominated for governor on the democratic ticket at the primary election, May 4.——Drs. Charles B. Kern, Lafayette, and John H. Hewitt, Terre Haute, have been reappointed members of the state board of health.——Dr. Obediah H. Garrett, Cadiz, is seriously ill as the result of a cerebral hemorrhage.——Dr. George A. Harrop, Jr., South Bend, has been awarded a traveling fellowship for the study of physiology in Denmark.

Hospital Items.—Shelbyville is to have a new hospital which is estimated to cost $225,000. A site for the building was recently purchased for $11,000. The institution will have accommodation for fifty patients.——A memorial hospital is to be established at Jeffersonville in honor of the soldier dead of Clark County.——Home Hospital, Muncie, is to be transferred to the board of governors, who will operate it as a public health hospital.—The Indiana Manufacturers' Reciprocal Association will establish in Indianapolis a physiotherapy hospital wherein workmen injured in industries in the factories of the association are to be rehabilitated to a degree that will allow them to reenter their fields of

labor.——The county board of Allen County has decided to build an addition to the County Isolation Hospital sufficient to offer at least temporary relief during the present prevalence of scarlet fever in Fort Wayne.

LOUISIANA

Personal.—Dr. Mayer A. Newhauser, Shreveport, has resigned as assistant health officer.——Dr. Sidney L. Williams has resigned as a member of the Shreveport Board of Health.

State Society Election.—At the annual meeting of the Louisiana State Medical Association held in New Orleans, April 27, the following officers were elected: president, Dr. Homer J. Dupuy, Jr., New Orleans; vice presidents, Drs. Beverly W. Smith, Franklin, William H. Harris, New Orleans, and Daniel O. Willis, Leesville; secretary-treasurer, Dr. Paul T. Talbot, New Orleans, and councilors—first district, Dr. Paul Gelpi, Jr., New Orleans; second district, Dr. George S. Bel, New Orleans; third district, Dr. Frank T. Gouaux, Lockport; fourth district, Dr. Joseph E. Knighton, Shreveport, and fifth district, Dr. Thomas E. Wright, Monroe.

MARYLAND

New Officers.—At the annual meeting of the Cecil County Medical Society, Dr. Vernon H. McKnight, North East, was elected president and Dr. Howard Bratton, Elkton, secretary-treasurer.

Health of Schoolchildren in Maryland.—In response to a request from the state and local health and educational authorities, the Public Health Service is conducting a survey and demonstration concerning the health of schoolchildren in Cecil County, Maryland.

Personal.—A portrait of Dr. William H. Welch, president of the University Club of Baltimore, was presented to the club recently at its monthly meeting. A large gathering of club members and friends of Dr. Welch witnessed the presentation. Dr. William S. Baer, chairman of the committee in charge of the presentation, presided.——Dr. Otis M. Linthicum has been elected mayor of Rockville, Md.

Medical Faculty to Convene.—The Medical and Chirurgical Faculty of Maryland will hold its one hundred and twenty-second annual meeting, May 11, 12 and 13, at the faculty building, Baltimore, under the presidency of Dr. John Ruhräh, Baltimore. A session of delegates at Osler Hall will open the program, which includes scientific meetings, clinics at various hospitals and the annual smoker of the organization.

Medical Society at Johns Hopkins.—Members of the William Pepper Medical Society of the Medical Department of the University of Pennsylvania came to Baltimore, May 8, and, conducted by members of the Johns Hopkins Medical Society, visited the School of Hygiene and Public Health, the Johns Hopkins Hospital and the Johns Hopkins University. Addresses by the most prominent physicians connected with the hospital were made both at the School of Hygiene and in the amphitheater of the surgical building, Johns Hopkins Hospital. Luncheon was served on the top floor of the Phipps Psychiatric Clinic, and in the evening an informal smoker was held at the home of Dr. Joseph Colt Bloodgood, Roland Park.

Fort McHenry for Federal Hospital.—The War Department has definitely announced that U. S. General Hospital No. 2, at Fort McHenry, will be turned over to the U. S. Public Health Service for its war risk insurance work, as soon as the hospital buildings are given up by the Medical Corps of the Army. Owing to the great need of caring for the sick and disabled discharged soldiers, the War Department has transferred this post to the Public Health Service for this purpose, and at the same time has informed the special committee appointed by the mayor of Baltimore City, that the post could not be used as a municipal hospital, since by act of Congress, it was stipulated that it should be used only as a public park by Baltimore City.

MICHIGAN

Personal.—Dr. Frederick G. Novy, Ann Arbor, has been elected a corresponding member of the Society of Biology of Paris, and an associate member of the Royal Society of Medical and Natural Sciences, Brussels.

Increase in Smallpox.—During the week, ended May 1, sixty-one new cases of smallpox were reported in Detroit, an increase of twenty-eight over the previous week. Of the cases thus far reported sixty-seven have been among the white population, and thirty-one among the colored population of the city.

MINNESOTA

Southern Minnesota Physicians to Meet.—The midsummer meeting of the Southern Minnesota Medical Association will be held in Fairmont, June 28 and 29. Dr. Walter J. Richardson is chairman of the committee of arrangements.

Clinic Week in Minneapolis.—More than 500 physicians attended the third annual clinic of the Hennepin County Medical Society, April 20 to 23. During those days clinics were conducted in all hospitals in Minneapolis, illustrated lectures were given in the afternoons and special meetings were held in the evenings. Dr. Charles Harrison Frazier, Philadelphia, at the annual banquet, April 20, delivered an address on "Surgery of the Nervous System."

Enrolment in Mayo Foundation.—During the current quarter which began April 1, 151 graduate students have been registered in the Mayo Foundation for Medical Education and Research, Rochester. Each of these students is registered for a period of three years or more. The fellows, 130 in number, are distributed as follows: surgery, 86; internal medicine, 20; otolaryngology and rhinology, 7; urology, 5; ophthalmology, 4; pathology and dermatology, each 2, and chemistry, bacteriology, roentgenology and orthopedics, each 1. Among the scholars who are not candidates for advanced degrees are 10 in surgery; 4, in dental surgery; 2, in orthopedics; and one each in roentgenology, internal medicine, dermatology, urology, and otolaryngology and rhinology.

MISSOURI

Brooklyn Physician in Kansas City.—At the meeting of the Jackson County Medical Society, May 4, Dr. John Osborn Polak, Brooklyn, delivered an address on "Present Day Operative Procedures in Obstetrics," illustrated with lantern slides.

Personal.—Dr. Ersel M. Fessenden has been appointed first house surgeon of the Frisco Hospital, Springfield, succeeding Dr. J. Omar Moore, resigned.——Dr. Roche W. Hogeboom has been appointed assistant consulting surgeon of the Frisco Hospital, Springfield.——Dr. Abraham Sophian, Kansas City, has been presented with a house and grounds valued at $82,000 in appreciation of medical services rendered to the wife of the donor.——Dr. Hasbrouck DeLamater, St. Joseph, has been appointed health officer of Norfolk County, Va.

To Increase Salaries at St. Louis University.—This month the alumni and friends of St. Louis University launch a movement to provide the institution with an endowment fund of $2,000,000 in commemoration of its first century of service in higher learning. The income on one half of the fund sought will be used to increase the salaries of teachers in the schools of medicine, dentistry, commerce and finance and the institute of law. For the provision of a laboratory for the school of medicine, a fund of $250,000 is to be provided; and after these immediate needs have been cared for, a total of $550,000 of the fund will be used to establish new clinics and to erect new buildings for the schools of medicine and dentistry. The St. Louis University opened its first school of medicine in 1836, four years after the institution received its charter. The school has been running with annual deficits for the last five years, the largest being for the school year ended in June, 1919, when the expenditures exceeded the receipts by more than $20,000.

NEW JERSEY

Society to Meet.—The one hundred and fifty-fourth annual meeting of the Medical Society of New Jersey will be held in New Monmouth Hotel at Spring Lake, June 15 to 17, under the presidency of Dr. Gordon K. Dickinson, Jersey City.

Personal.—Dr. William J. Chandler, South Orange, secretary of the Medical Society of New Jersey, who met with a serious accident recently, is now reported to be convalescent.——Dr. Thomas W. Harvey, Orange, after thirty-eight years' service as attending surgeon at the Orange Memorial Hospital, has resigned and has been succeeded by Dr. Douglas A. Cater of East Orange. Dr. Ralph H. Hunt, East Orange, has been appointed attending physician to the hospital.——Dr. M. Charles Mackin, assistant superintendent of the New Jersey Institution for Feebleminded, Skillman, has been appointed superintendent of the Mount Pleasant, Iowa, State Hospital, succeeding Dr. Charles F. Applegate.

NEW YORK

Health Council for Albany.—Representatives of the ten official and volunteer health agencies of Albany and vicinity have organized a health council for the purpose of securing better coordination in health work. Other organizations having health affiliations will be invited to join. Mr. Edward H. Huyck has been elected chairman; Miss Gertrude J. Owen, corresponding secretary, and Mr. Lewis R. Screenley, recording secretary.

Personal.—Dr. Harold W. Lyall, for nine months bacteriologist on the staff of the state laboratory, has accepted the position of bacteriologist of the Mellen Research Laboraories, Tuberculosis League, Pittsburgh, and of associate in the department of bacteriology and pathology in the Medical School of the University of Pennsylvania.——Miss Pearl L. Kendrick, a member of the state laboratory staff, has resigned to accept a position in the laboratory of the state department of health of Michigan.——Dr. Charles A. Howland, Schenectady, for eight and one-half years assistant sanitary engineer of the division of sanitary engineering, has resigned to accept a position in Kansas City.

Mental Clinics.—The scope of the mental clinics conducted by state hospitals in the Psychopathic Institute, under the auspices of the state hospital commission, has been enlarged during the last year to include mental defectives. Physicians as well as psychometric testers for the mentally defective patients have been supplied by the state commission for mental defectives and the various state schools for mental defectives. These mental clinics are held whenever possible in connection with the health center established by the state department of health and in the same location with such other clinics as those for children's diseases, tuberculosis and venereal disease. The seven state departments represented by the committee on joint clinics are working in harmony with the result that extra-institutional treatment in mental and other types of cases is increasing in a very encouraging manner. These clinics are being held at all state hospitals.

New York City

Society for Clinical Study.—The next monthly meeting of the Society for Clinical Study will be held in the reception hall of the New York Diagnostic Clinic, 125 West Twenty-Second Street, on the evening of May 26.

West Side Dispensary Buys Site.—The West Side Dispensary and Hospital has purchased the property adjoining its present building as a site for a lying-in hospital. The property was purchased for $50,000 and will be rebuilt next fall at a cost of between $50,000 and $100,000.

Health Department Night.—At the regular monthly meeting of the Academy of Pathological Science, April 23, the program consisted of papers on public health topics only, presented by officials of the department of health. These included: "Activities of the Board of Health"; "Schick Tests"; "Industrial Medicine"; "Food and Drug Control," and "Narcotic Addiction Medical Treatment."

Federal Government to Buy Quarantine Station.—The House of Representatives has approved the Magee bill providing for the taking over by the federal government of the quarantine station in New York Harbor. The purchase price is $1,395,275, which is the amount settled on in condemnation proceedings. No trouble is anticipated in passing the bill through the Senate.

Grand Jury Acts on Dr. Markoe Assassination.—The grand jury sitting on the death of Dr. Markoe, who was killed in St. George's Church on April 18, suggests that a petty jury at a trial be permitted to find a defendant "guilty but insane." At present the verdict must be worded "not guilty, but insane." It suggests also that the law be amended so that a corps of physicians or neurologists be appointed as the only competent authority to certify to the court on insanity cases.

Personal.—Dr. Royal S. Copeland, health commissioner, will sail, May 8, to represent the city of New York at the Congress of the Royal Institute of Public Health, which opens in Brussels on May 19. In response to an invitation from the institute, he will deliver an address on the prevention of epidemics. He will also make a tour of European ports to study public health conditions.——Dr. John F. Ferguson has been appointed a member of the board of education.——Dr. John J. Kindred, Astoria, has been appointed highway commissioner of Queens, succeeding Mr. George Howland Leavitt.

Memorial to Dr. Jacobi.—The stated meeting of the New York Academy of Medicine of May 6 was held in memory of the late Dr. Abraham Jacobi. This date being the anniversary of Dr. Jacobi's birth was made the occasion for the presentation by his family of a bronze bas-relief of Dr. Jacobi, the one presented to him some years ago by the New York State Medical Society. The presentation was made by Hon. George McAneny, his son-in-law, and was formally accepted by Dr. George David Stewart, president of the academy. In his address Dr. Stewart reviewed the services of Dr. Jacobi to the academy during his sixty years of membership. Dr. George E. Vincent, president of the Rockefeller Foundation, delivered an address on "The Life and Influence of Dr. Jacobi Upon His Time," in which he dwelt on Dr. Jacobi's contributions to the advancement of medical science, and his clear vision of the larger possibilities of the profession.

OREGON

Personal.—Dr. Lloyd W. Brooke, Portland, after work in France and Belgium during the war has been sent to Tirana, Albania, to establish an American Red Cross dispensary.

Public Health Association Organized.—Hood River County is the seventh in the state to organize a public health association. This organization was perfected March 17 at Hood River and officers and district chairmen elected.

Botulism Reportable.—The state board of health has included botulism in its list of communicable diseases and has circularized health officers and physicians, directing attention to the importance of reporting the occurrence of any cases and of giving information regarding the suspected cause.

PENNSYLVANIA

Philadelphia

Meeting of College of Physicians.—The section on general medicine of the College of Physicians of Philadelphia held its stated meeting, April 26, at which cardiac arrhythmias were discussed, the formal presentation of the subject being by Prof. Bernard S. Oppenheimer, assistant professor of clinical medicine in Columbia University.

Personal.—Dr. Charles E. De Medici Sajous has been named in the list of nominations for the Hall of Fame in New York University.——Dr. Lawrence F. Flick has received the Laetare Medal, the highest distinction that can be conferred on a Catholic layman in the United States, awarded annually by the University of Notre Dame, as a tribute to his work in the field of medicine.——Dr. Alexander Hugh F. Barbour, M.D., LL.D., vice president of the Royal College of Physicians, Edinburgh, Scotland, addressed the Obstetrical Society of Philadelphia, May 6, on "Reminiscence and Forecast."——At the stated meeting of the College of Physicians, May 5, Dr. George H. Whipple, professor of research medicine, University of California, and Drs. Francis Peyton Rous and Philip D. McMaster of the Rockefeller Institute, read papers.

Public Health Day.—Wednesday, May 12, 1920, was made public health day for Philadelphia. The following organizations cooperated: the Philadelphia County Medical Society, the College of Physicians, the city departments of public health and public welfare, the board of public education, Children's Playground Association, the Child Federation, City Parks Association, the Civic Club, the City Club, Philadelphia Housing Association and the Pennsylvania Society for the Prevention of Tuberculosis. Short addresses on health and hygiene were made in the public and parochial schools in the morning, and in the evening many community meetings in schoolhouses and recreation centers were addressed by physicians and other qualified speakers interested in the movement. The central and most important event was the joint meeting under the auspices of the county medical society and the associated organizations and departments named above at the Manufacturer's Club.

WEST VIRGINIA

State Society Meeting.—The annual meeting of the West Virginia State Medical Association will be held in Parkersburg, May 18 to 20, under the presidency of Dr. Henry R. Johnson, Fairmont.

Public Health Service Makes Dental Survey.—In cooperation with the state board of health, the Oral Hygiene Unit of the Public Health Service is making a state-wide survey

of dental hygiene problems in West Virginia, with special reference to schoolchildren. The unit is visiting every county seat in the state and making inspections of the mouths of a number of children attending school, demonstrating to the community the extent of the dental needs of the school population, and assisting the local communities in perfecting measures whereby dental services can be provided when such do not now exist. At the same time teachers are being instructed in the principles of dental prophylaxis. Eventually it is hoped to have the proper authorities establish a mobile dental clinic to visit the schools throughout the state.

WISCONSIN

Resignations from Faculty.—It is reported that Drs. Louis M. Warfield, Charles H. Stoddard, Arthur J. Patek, Carl H. Davis and James D. Madison have resigned from the faculty of Marquette University School of Medicine, Milwaukee, on account, it is said, of a difference of opinion on the university's theory that the life of the infant must be saved before that of the mother.

Personal.—Dr. Deno F. O'Connor, Verona, who was attached to the staff of Mercy Hospital, Chicago, and later was on duty with the Semenoff forces in Siberia has been detailed as surgeon to the steamer *President Grant*, by the American Red Cross, to accompany a number of Czecho-Slovaks to Prague.——Dr. Herbert E. Ellsworth has been reappointed health officer of Appleton.

Clinic in Oshkosh.—A tuberculosis clinic was opened at Oshkosh, April 9 and 10, under the auspices of the Wisconsin Antituberculosis Association, under the charge of Drs. Arehm A. Pleyte, Delafield; Robert L. Williams, Statesan, superintendent of the State Tuberculosis Sanatorium, Wales; Dr. William J. Clancy, Wauwatosa, assistant medical director of Muirdale Sanatorium; Dr. Oscar Lotz, Milwaukee, and Dr. J. Gurney Taylor, Milwaukee.

CANADA

Personal.—Dr. Delmer A. Craig, formerly medical superintendent of the Alexandria Sanatorium, London, Ont., and later consultant in diseases of the chest, Military District No. 1, has accepted the position of medical consultant on the staff of the Massachusetts-Halifax Health Commission, with headquarters at Halifax.

Returned Soldiers Under Treatment for Tuberculosis.—According to an announcement in the House of Commons a few days ago, there are 1,715 returned soldiers in Canada undergoing treatment for tuberculosis. Fifteen per cent. of these are considered incurable. The total number of ex-soldiers treated in sanatoriums by provinces are as follows: Ontario, 3,404; Quebec, 1,350; Prince Edward Island and Nova Scotia, 1,126; Manitoba, 687; Saskatchewan, 445; Alberta, 275; British Columbia, 735, and New Brunswick, 272.

GENERAL

Tropical Medicine Society Meeting.—At the annual meeting of the American Society of Tropical Medicine held in New Orleans, April 27, the following officers were elected: president, Dr. John M. Swan, Rochester, N. Y.; vice presidents, Drs. Karl F. Meyer, San Francisco, and Victor G. Heiser, New York; secretary-treasurer, Dr. Sidney K. Simon, New Orleans, and assistant secretary, Dr. Allen J. Smith, Philadelphia.

Gynecologists to Meet.—The annual meeting of the American Gynecological Society will be held in Chicago, May 24 to 26, with headquarters at the Congress Hotel. Three morning sessions and one evening session will be held. The morning sessions of May 24 and 26 and the evening session of May 25 will be held in the Florentine Room of the Congress Hotel, and the morning session of May 25 will be held at the South Shore Country Club. Drs. Thomas W. Eden, London, and Charles Jacob, Brussels, Belgium, will be guests of the society and will read papers. Dr. Thomas J. Watkins is chairman of the committee of arrangements, and the profession of Chicago is cordially invited to be present.

Air Service Surgeons Meet.—At the annual meeting of the Air Service Medical Association of the United States held in New Orleans, April 27, the following officers were elected: president, Col. Albert E. Truby, M. C., U. S. Army, Washington, D. C.; vice presidents, Col. Robert A. Strong, M. R. C., U. S. Army, New Orleans, Col. Louis H. Bauer, M. C., U. S. Army, Mineola, N. Y., Col. J. O. McReynolds, M. R. C., Dallas, Texas, Col. Isaac W. Jones, M. R. C., U. S. Army, Los Angeles, and Major Samuel Mederith Strong, M. C., U. S. Army, Carlstrom Field, Fla., and secretary-treasurer, Col. Nelson Gapen, M. C., U. S. Army (retired), Washington, D. C.

Medical Veterans of World War Meet.—At the annual meeting of the Medical Veterans of the World War held in New Orleans, April 26, the following officers were elected: president, Dr. Frank Billings, Chicago; vice president, Admiral Edward R. Stitt, U. S. Navy; secretary-treasurer, Col. Frederick F. Russell, M. C., U. S. Army, Washington, D. C., and trustees, Drs. Hubert Work, Pueblo, Colo., John M. Dodson, Chicago, George E. Brewer, New York, Joel E. Goldthwait, Boston, James C. Perry, Washington, D. C., and Col. Frank R. Keefer, M. C., U. S. Army, Washington, D. C. The next annual meeting will take place in Boston on the day preceding the meeting of the scientific assembly of the American Medical Association.

FOREIGN

Training School Re-equipped.—Rudolfinerhaus, the oldest and best known training school for nurses in Vienna, founded by Professor Billroth, has been reequipped by the American Red Cross and arrangements have been made whereby nurses can go back to their prewar work.

Token of the Gratitude of France.—The *Journal officiel*, of Paris, published in its issue of Feb. 24, 1920, the names of two Americans to whom had been presented the Médaille de la reconnaissance française, Major Haynes and Major Albert J. Chesley, both connected with the American Red Cross.

Chateau Made Into Sanatorium.—The American Red Cross Commission to Belgium has completed the purchase of the estate of Baron de Naere at Aertrycke near Thourout. The chateau stands on one of the highest points in Flanders, has spacious grounds and will accommodate several hundred patients. Baron Van de Gracht has given 200,000 francs to aid in the equipment of a sanatorium.

Roentgen's Retirement.—At the close of the winter semester this spring Professor Roentgen retired from his chair (experimental physics) at the University of Munich and resigned likewise the charge of the Physikalisches Institut. His discovery of the rays that bear his name was made at Würzburg in 1895. Although not a physician, the profession can almost claim him on account of the way it has appropriated his discovery. He was born March 27, 1845.

Salaries of Public Health Officers.—At the suggestion of the Society of Medical Officers of Health and the British Medical Association, the medical journals of England have decided to reject all advertisements for assistant medical officers of health when the annual salary offered is less than £500, exclusive of traveling expenses. The agreement draws attention to the inadequate remuneration of physicians in the public service, for salaries in many cases have remained unchanged despite the increased cost of living.

Extension of Compulsory Health Insurance in Germany.—The *Deutsche medizinische Wochenschrift* for April 15 brings word that the committee appointed by the government has reported in favor of raising the income limit for compulsory insurance against sickness to 20,000 marks. By means of the new "simplified legislation" system, this became a law April 26. The editorial comment is to the effect that "even in an absolute monarchy, the law-making machine could not turn out anything worse than this new regulation in the so-called 'most democratic republic in the world.' In connection with the compulsory family health insurance and recent enactments in regard to the war disabled, nine-tenths of the total population are thus withdrawn from private medical practice."

Personal.—Prof. A. Calmette of Lille and Paris recently visited Athens to inaugurate there the Pasteur Institute of Greece. He was accompanied by Drs. Abt and Blanc who are to remain in charge of the new institution. Calmette's pioneer research and successful application of antivenins, antiplague serum, and the ophthalmo-tuberculin reaction are well known, and his antituberculosis dispensary at Lille was the mother preventorium. He was appointed to succeed Metchnikoff in the Pasteur Institute at Paris, but on account of the German occupation of Lille was able only recently to enter on his post as subdirector, under Roux.——The Constantinople Medical Society receives an appropriation from the state. At the recent election, the officers chosen were, for president, Dr. Trantas, for secretary, Dr. A. S. Papadopoulo, and for treasurer, Dr. Antonacopoulo.

Government Services

Medical Officers Honored by King

The king of England, on the recommendation of Sir Douglas Haig, made Nov. 7, 1917, has voiced his appreciation of the distinguished service in the field of the following officers of the Medical Corps, U. S. Army: Cols. Christopher C. Collins; George W. Crile, Cleveland; Harvey Cushing, Boston; Mathew A. Delaney; Robert U. Patterson; Harry L. Gilchrist; James D. Fife; Richard H. Harte, Philadelphia, and Lieut.-Col Lucius L. Hopwood.—Miss Julia Stimson, superintendent of nurses, U. S. Army, has also received a like token of appreciation from the king.

Care of Speech and Hearing Defects

The Federal Board for Vocational Education estimates that there are among the injured veterans of the World War between ninety and 100 cases of men whose speech became absolutely unintelligible as the result of mouth or neck wounds, aphasia, or other causes. Of these men 25 per cent. are still in the hospital and 50 per cent. are in training or approved for training. The courses followed are agriculture, auto mechanics, commercial courses and chemistry. There are probably several thousand men throughout the country who became deaf in one ear, or who have suffered slight impairment of hearing in both ears. However, there are only about 200 for whom lip reading is necessary. Therefore, the approximate number of hearing and speech defect cases will be about 300.

Vocational Schools in Hospitals

A vocational school for veterans of the recent war may be established by the Federal Board for Vocational Education in any hospital where there are ex-service men in groups of sufficient numbers to justify the establishment of such a school. With this idea in mind, an officer of the Public Health Service made a survey which took in hospitals in the soldiers' homes at Dayton, Ohio, Marion, Ind., Danville, Ill., and Milwaukee; three Public Health Service hospitals—P. H. S. Hospital No. 30 and the Marine Hospital, both at Chicago, and P. H. S. Hospital, Markleton, Pa.; the private sanatorium at Catawba, Va., and the county hospital, "Healthwin," at South Bend, Ind.

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY

Note.—In the following list, L. signifies lieutenant; C., captain; M., major; L. C., lieutenant-colonel, and Col., colonel.

CALIFORNIA

Los Angeles — Leonard, W. E. (C.)
San Francisco—Rocho, V. L. (L.)

DISTRICT OF COLUMBIA

Washington—Wyant, J. E. (C.)

FLORIDA

Jacksonville—Turck, R. C. (Col.)

GEORGIA

Bethlehem—Harris, E. R. (C.)
Milledgeville—Caraker, C. T. (M.)
Ocilla—Armour, W. S. (L.)

ILLINOIS

Bush—Deason, F. (C.)
Bushnell—Blackstone, G. R. (L.)
Chicago—Brown, A. K. (C.)
Ferguson, A. H. (L.)
Hagerty, T. W. (L.)
Stobe, R. E. (L.)
Winfield—Levy, E. (L.)

INDIANA

Indianapolis—Wiggins, E. L. (C.)
Kingsbury—Webster, B. (M.)

KANSAS

Elmdale—Johnson, F. T., Jr. (C.)
Garden City—Davison, C. O. (L.)
Leavenworth—Brown, A. L. (C.)
Osawatomie—Weathers, B. (L.)

KENTUCKY

Louisville—Stickley, A. E. (C.)

MARYLAND

Baltimore—Daniels, W. H. (C.)
Hachtel, F. W. (L.)
Owings Mills—Jones, K. B. (M.)

MASSACHUSETTS

Boston—Murphy, J. H. (L.)
Rudman, I. E. (C.)
Worcester—Crofton, G. H. (L.)

MINNESOTA

Vernon Center — Clement, T. G. (C.)

MISSISSIPPI

Houston—Wilson, E. P. (L.)
Jackson—Brewer, M. I. (L.)

MISSOURI

Clayton—Moore, R. D. (C.)
Kansas City—Hirschberg, S. B. (C.)
Weston—Calvert, L. C. (L.)

NEW MEXICO

Santa Fe—Heddine, B. E. (C.)

NEW YORK

Brooklyn—Spiegel, B. E. (C.)
Buffalo—Argus, F. (C.)
Fairport—Ferrier, W. H. (C.)
New York—Bensel, W. (L. C.)

OREGON

Portland—Keeney, H. I. (C.)

PENNSYLVANIA

Philadelphia—Harding, J. C. (L.)
Hendel, I. (L.)
Shenandoah—Mullahey, L. T. (L.)

SOUTH DAKOTA

Yankton—Wood, J. A. (C.)

TENNESSEE

National Soldier's Home—Byrd, E. E. (L.)

TEXAS

Caldwell—McLean, W. J. (L.)
Dalhart—Owens, R. L. (C.)
Palestine—Wilhite, G. W. (C.)
Rush—Barron, W. P. (L.)

VIRGINIA

Union Hall—Sutherland, F. P. (L.)

WASHINGTON

Kent—Gould, A. R. (C.)

WEST VIRGINIA

Cooper—Goodwill J. J. (M.)
White Sulphur Springs—Capito, G. B. (C.)

WISCONSIN

Fond du Lac—Harris, F. M. (L.)

WYOMING

Cheyenne—Snyder, O. K. (C.)

Foreign Letters

BUENOS AIRES

April 3, 1920.

Lethargic Encephalitis

While this disease has been observed in Montevideo, no cases had been reported so far in Argentina. Recently, however, Dr. J. P. Navarro has reported a case (*Semana Médica* **9**:283, 1920) and Dr. Gaspar Teglia three (*Revista Médica del Rosario* **10**:1, 1920).

Typhus Fever

The epidemic of typhus fever has not yet crossed the Andes in spite of the severity it has assumed in Chile (12,068 cases with 3,560 deaths from October to December, 1919). But in the northern part of Argentina, small foci have persisted in some villages of the province of Salta, which are situated in the mountains and have very poor communications. Some new cases have also been observed recently in the district of San Carlos. The national department of public health has decided to remove to La Quiaca the sanitary station, previously installed at Humahuaca.

Plague

For the last few months there have been occurring cases of bubonic plague in practically all of the South American countries, especially in the southern part Brazil, Uruguay and Argentina. The spread of the disease has coincided with the removal of the stored wheat. The national department of public health has increased the number of sanitary commissions, having created another one at Cordova, presided over by Dr. Ricardo Argerich, with three subcommissions under Drs. Pasalacqua, Machado and Pedrazzini, respectively.

National Department of Public Health

Dr. Capurro, president of the national department of public health, has just been elected a member of the House of Representatives, Dr. Teófilo Lecour becoming for the time being acting president. It is to be regretted that this department should be considered a political institution, as this causes constant changes in its personnel.

LONDON

April 23, 1920.

The Control of "Patent Medicines"

The ministry of health has appointed a committee to consider and advise on the legislative and administrative measures to be taken for the control of the quality and authenticity of such therapeutic substances offered for sale as cannot be tested adequately by direct chemical means. The committee includes Dr. H. H. Dale, head of the department of biochemistry and pharmacology under the Medical Research Council, and Dr. C. J. Martin, director of the Lister Institute of Preventive Medicine. In 1912, a select committee of the House of Commons on "patent medicines" was appointed. In its report, issued in 1914, it thus summed up the legal position in regard to "patent medicines": "For all practical purposes, British law is powerless to prevent any

person from procuring any drug, or taking any mixture, whether potent or without any therapeutic activity whatever (so long as it does not contain a scheduled poison), advertising it in any decent terms as a cure for any disease or ailment, recommending it by bogus testimonials and the invented opinions and facsimile signatures of fictitious physicians, and selling it under any name he chooses on the payment of a small stamp duty, for any price he can persuade a credulous public to pay."

The principal recommendations of the committee were: 1. That the administration of the law governing the advertisement and sale of "patent" and secret medicines be combined under one department of the state—the ministry of health when created, and then the Local Government Board. 2. That the manufacturers, proprietors and importers of such medicines be registered. 3. That an exact and complete analysis of every remedy, including medicated wines, with a full statement of the claims made for them, be furnished to the department. 4. That a special court or commission be constituted with power to permit or prohibit in the public interest, or on the ground of noncompliance with the law, the sale and advertisement of any remedy, and that the commission be a judicial authority, such as a metropolitan police magistrate sitting with two assessors, one appointed by the department and the other by some such body as the London chamber of commerce. 5. That the advertisement and sale (except the sale by a physician's order) of medicines purporting to cure the following diseases be prohibited: cancer, consumption, lupus, deafness, diabetes, paralysis, fits, epilepsy, locomotor ataxia, Bright's disease and rupture (without operation or appliance). 6. That all advertisements of remedies for venereal diseases and advertisements likely to suggest that a medicine is an abortifacient be prohibited. 7. That it be a breach of the law to use fictitious testimonials, or to promise to return money paid if a cure is not effected. Nothing was done to carry out these recommendations, for the war began and absorbed all the energies of the government. At last there is a prospect of checking the notorious nostrum evil.

Aeroplanes as Carriers of Disease Germs

In a lecture at the Royal Institution on "The Menace of Man's Dispersal of Insect Pests," Prof. H. Maxwell Lefroy pointed out how insect pests had been carried about the world from one country to another. This menace was going to be worse. In the first place, we were steadily linking up the world by railways, and especially by aeroplanes. Formerly we traveled by sea, and transported insects would die from the effects of a long journey; but the greatest carrier of pest-carrying insects was the aeroplane, which picked up insects, landed in a field, and deposited them, all within a few hours. The aeroplane was truly the disseminator of crop pests. During Dr. Chalmers Mitchell's flying trip through Africa, his aeroplane, while on the ground, had been attacked by white ants. The aeroplane could easily pick up the yellow fever breeding mosquito and bring it to another land within the space of a few hours. The tsetse fly, which engendered the African sleeping sickness, could be taken from West Africa to Brazil in a few hours. Among the insects the most to be dreaded was the chinch-bug, which in 1864 caused a loss of 73 million dollars' worth of wheat.

Proposed Medical Degree for a Bone Setter

Mr. Barker, the bone setter, has a large number of admirers among the public. A petition signed by more than 300 members of Parliament, past and present, has been presented to the Archbishop of Canterbury to exercise an ancient prerogative which empowers him to grant medical degrees in favor of Mr. Barker. The prerogative now, however, is in desuetude. It originated in the control once exercised by the church over the practice of medicine. Some years ago it was last exercised to confer the degree of M.D. on an already qualified physician, in consideration of some philanthropic or charitable work. As reported previously in THE JOURNAL, there was an agitation among members of Parliament to obtain for Mr. Barker an honorary degree from some of the universities in consideration of his services to wounded soldiers. It was unsuccessful, and it does not seem likely that the present attempt will have any better result.

Arsenic in Sugar; Sixty Persons Poisoned

An outbreak of arsenic poisoning, affecting sixty people, has occurred at the village of Haslemere, Surrey. About twenty households were involved, and among the victims were three bottle-fed babies. Suspicions of food poisoning were first aroused when three members of a family were seized with severe vomiting and internal pains after drinking some tea. When it was found that another member of the family, whose tea had not been sweetened, was unaffected, the sugar on the table was removed for examination, and the shop where it was purchased was visited by the local health officer. It was then discovered that a barrel of moist sugar recently arrived had become contaminated with a liquid preparation of some kind largely composed of arsenic. Inquiries led to the discovery that during transit by rail the sugar had come into contact with a leakage from a tin of weed killer, which contained arsenic. So far none of the cases have been fatal.

PARIS

April 15, 1920.

The Supply of Meat and Fish

Free commerce has been restored in the importation of frozen meats, until now a monopoly. A shortage is not to be apprehended, for the world supply of frozen meats has been found amply equal to consumption; in certain countries even, such as England, there is an overabundance. Moreover, there is no shortage of refrigerator ships in France since replenishment has proceeded almost entirely with French boats. Nevertheless, even though freedom of commerce is assured, the price remains under state control, which will prevent speculative attempts to increase the price exorbitantly. In spite of these precautions, consumption of frozen meats has really become less and less advantageous because of the depreciation of the franc. If this low standard continues, it will be necessary to employ the most logical meat substitute—fish. For this, it is necessary to assist the fishing industry, and above all, to help the work of steam trawlers whose yield is greater. The undersecretary of food control is at present engaged on this matter and particularly on a plan to obtain special concessions for coal trawlers. In anticipation of considerable traffic in fish, the railroad companies have also made some important preparations by setting up cold storage depots and by carrying refrigerator cars to preserve and transport the products of the fishing industry.

The Campaign Against Cancer

M. Le Troquer has just introduced a measure in the municipal council tending to assist the campaign against cancer, the ravages of which are increasing incessantly. Whereas in 1910 there were 3,073 cases of cancer, based on the number reported by physicians, in the following year there were 3,619. In the face of this state of affairs, M. Le Troquer thinks it opportune to encourage the use of radium in the treatment of cancer. Unfortunately, in Paris itself the *Assistance publique* is not in a position to give indigents the benefit of such special treatment, for no hospital has any

radium. M. Le Troquer likewise proposes the creation of a scientifically autonomous dispensary attached to the radium institute of the University of Paris, to which shall be entrusted 2.5 grams of radium to be purchased through an appropriation of 2,500,000 francs, which is requested in the measure.

Honor to Dr. Jacques Vaillant

The municipal council of Paris has unanimously expressed its deep regard for Dr. Jacques Vaillant, chief of the radiographic laboratory at the Hôpital Lariboisière, who recently suffered amputation of the left arm because of serious injuries from radiodermatitis.

Congress of Physiology

A congress of physiology will be held in Paris, July 16-20, under presidency of Dr. Charles Richet. Applications and assessments (35 francs) should be sent to M. Lucien Bull, treasurer, Institut Marey, avenue Victor-Hugo, Boulogne-sur-Seine; correspondence should be addressed to Professor Gley, Collège de France, 14 rue Monsieur-le-Prince, Paris.

Decrease in the Birth Rate

The National Alliance for Increasing the Population of France recently published the figures of the fluctuation of the civil population of Prussia in comparison with those of France. From July 1, 1914, to June 30, 1918, exclusive of deaths in the armies, the population of uninvaded France (33,000,000 inhabitants) decreased 973,000; that of Prussia (42,000,000 inhabitants) decreased 313,000 during the same period. With a civil population of 9,000,000 less than Prussia, France suffered a loss three times as great. Taking into consideration the ten invaded departments, for which complete statistics are lacking, but where the birth rate has been very low and the mortality quite high, the decrease in the population of France appears even much more formidable. The great difference between France and Prussia is due entirely to the higher German birth rate, which, although it decreased during the war in the same proportion as that of France, is still much higher than in the latter country.

Physical Exercise in the Army

By an order of M. André Lefèvre, minister of war, sports have been made compulsory in the army. Hereafter all field officers and captains must be qualified to direct the physical exercises of their commands, and all lieutenants and sublieutenants must be able to perform the functions of captain of a football team.

Promotion of Clinical Research

A committee has just been formed under the patronage of M. Paul Deschanel, president of the French republic, and with M. Raymond Poincaré, ex-president of the republic as honorary president, with a view of establishing at Paris a great laboratory of chemical research, under the name of *Institut de la Victoire*. Dr. Emile Roux, director of the Pasteur Institute, Prof. Charles Richet of the Faculty of Medicine, and Professor Bordas of the Collège de France, are among the members of the organization committee.

Committee on Mental Hygiene

The minister of hygiene, assistance and social providence has just instituted a committee on mental hygiene, with instructions to make a technical study of all questions relating to mental hygiene, psychiatry, and applied psychophysiology of the various social activities.

Death of Dr. G. Sarda

Announcement has been made of the death of Dr. G. Sarda, aged 65, professor of medical jurisprudence at the University of Montpellier.

Deaths

Checked twice.

John Chalmers DaCosta, Jr. ● M. C., U. S. N. R. F., Philadelphia; Jefferson Medical College, 1893; aged 48; died in St. Timothy's Hospital, April 26, from skull fracture sustained in an automobile accident. He was lieutenant and assistant surgeon, U. S. V., during the Spanish-American War; was well known as a specialist on internal medicine, holding the position of associate professor of medicine in his alma mater; attending physician at Jefferson Hospital, consulting physician to the Northwestern General Hospital and hematologist to the German Hospital. He was a fellow of the American Academy of Medicine, and of the College of Physicians of Philadelphia, and the author of articles and monographs on clinical hematology, surgical hematology and the principles and practice of diagnosis.

John Williams Severin Gouley, Brooklyn; College of Physicians in the City of New York, 1853; University of the City of New York, 1878; aged 87; died at the home of his daughter, April 26, from senile debility. He was visiting surgeon to Bellevue Hospital from 1859 to 1898; consulting surgeon to Bellevue and St. Vincent's hospitals, New York City, and at one time professor of anatomy in the Vermont College, Woodstock, and demonstrator of anatomy in the University of the City of New York. During the Civil War he was attached to the medical staff of the Central Park Military Hospital, and later served with the armies in the field.

Adolph August Hoehling, Medical Director, Rear Admiral, U. S. Navy (retired), Chevy Chase, Md.; University of Pennsylvania, Philadelphia, 1860; aged 81; died, April 25, from arteriosclerosis. He entered the Navy as assistant surgeon, April 4, 1861, was promoted to passed assistant surgeon in 1865, to surgeon in 1867, to medical inspector in 1885, to medical director in 1893, and to rear admiral on June 29, 1906, the date on which he was retired for disability incident to the service, after thirteen years and five months' sea service.

Louis Nott Lanehart ● Hempstead, L. I., N. Y.; Albany (N. Y.) Medical College, 1883; aged 50; one of the organizers of, and surgeon to, the Nassau Hospital; surgeon to the Babylon, Mercy, and Eastern Long Island hospitals, and consulting surgeon to the Williamsburg Hospital; health officer of Hempstead village and township; died, April 25, from heart disease, after an operation on his throat.

Lunsford Eliga Cox, Greenwood, Ind.; State College of Physicians and Surgeons, Indianapolis, 1907; aged 37; a member of the Indiana State Medical Association; once coroner of Johnson County; who had been under treatment in a sanatorium for nervous diseases in Indianapolis, is said to have committed suicide at that institution, by strangulation, April 26.

John Mitchell Benedict, Woodbury, Conn.; University of the City of New York, 1882; aged 68; a member of the Connecticut Medical Society; visiting physician and surgeon to the Waterbury Hospital; major and surgeon of the Second Infantry, Connecticut National Guard from 1889 to 1895; died, April 23, from angina pectoris.

John Gailey Campbell ● Chicago; Northwestern University Medical School, Chicago, 1896; aged 50; instructor in pediatrics and formerly instructor in physical diagnosis and clinical medicine in his alma mater; medical referee of the Mutual Life Insurance Company of New York; died, May 10, from pneumonia.

David Andrew Conrad ● Santa Barbara, Calif.; University of California, Berkeley and San Francisco, 1893; aged 48; captain, M. C., U. S. Army (emergency); who had been under treatment at the Letterman General Hospital, Presidio of San Francisco; died in Santa Barbara, April 6.

Claren Emmett Pfeifer ● Columbus, Ohio; Ohio Medical University, Columbus, 1904; aged 45; captain, M. R. C., U. S. Army, and discharged April 25, 1918; head of the United States Public Health Service for the central district of Ohio; died in his office, April 23, from diabetes.

Joseph Fraenkel, New York City; University of Vienna, Austria, 1890; aged 52; assistant professor of clinical medicine in Cornell University Medical School, New York City; a fellow of the New York Academy of Medicine; died, April 24, from disease of the stomach.

● Indicates "Fellow" of the American Medical Association.

Ewing Jordan, Philadelphia; University of Pennsylvania, Philadelphia, 1871; aged 73; from 1880 to 1885 first assistant physician to the Pennsylvania State Hospital, Norristown; died at the home of his brother in Philadelphia, April 28.

Julius Scheider, New York City; University of Vienna, Austria, 1872; aged 74; a member of the staff of the German Hospital, New York City, in the department of diseases of children; died, April 26, from heart disease.

Donald Meronan Kelley, Brookston, Ind.; University of Michigan, Ann Arbor, 1881; aged 65; one of the founders and president for several years of the Brookston Canning Company; died, April 16, from arteriosclerosis.

Richard James Plumer Goodwin, Malden, Mass.; Harvard University Medical School, 1865; aged 82; a member of the Massachusetts Medical Society; surgeon of U. S. Volunteers throughout the Civil War; died, April 19.

Arthur Judson Benedict ● Newburgh, N. Y.; University of Buffalo, N. Y., 1876; a specialist in diseases of the ear, nose and throat; died in St. Luke's Hospital, Newburgh, April 17, after an operation for gallstones.

Willis Curtis Cook, Brockport, N. Y.; Toledo (Ohio) Medical College, 1887; aged 88; for forty-two years a practitioner of medicine; died at the home of his granddaughter in Albion, N. Y., April 14.

Arthur Emery Green ● Lansing, Mich.; University of Michigan, Ann Arbor, 1902; aged 44; a specialist in pediatrics; until 1919 a practitioner of Leslie, Mich.; died, April 17, from heart disease.

William Dawson Robinson, East Orange, N. J.; Bellevue Hospital Medical College, 1879; aged 77; a member of the Medical Society of New Jersey; a veteran of the Civil War; died, April 13.

John William Clarke ● Lyndhurst, N. J.; Medico-Chirurgical College of Philadelphia, 1901; aged 52; health officer of Lyndhurst for several years; died, April 12, from cardiorenal disease.

Mary Parker, Waltham, Mass.; Hahnemann Medical College, Chicago, 1910; aged 47; a member of the staff of the Massachusetts Homeopathic Hospital; died, April 8, from carcinoma.

Charles James Helm ● Peru, Ind.; Harvard University Medical School, 1887; aged 57; consulting surgeon at the Wabash Railway Hospital, Peru; died, April 27, from pneumonia.

Wallace Harlow Deane, Springfield, Mass.; Yale University, New Haven, Conn., 1877; aged 66; a member of the Massachusetts Medical Society; died, April 10, from pneumonia.

Valeollon Warsaw Mather, Kansas City, Mo.; Pulte Medical College, Cincinnati, 1883; aged 73; died in the Robinson Sanitarium, Kansas City, April 18, from cerebral hemorrhage.

Reginald Francis Cox, Alexandria, Va.; Tulane University, New Orleans, 1918; aged 29; died at the home of his parents in Alexandria, April 19, from tuberculosis following influenza.

Henry Tupper Drane, Clarksville, Tenn.; Bellevue Hospital Medical College, 1873; aged 70; died at the home of his daughter in Brookhaven, Miss., March 24, from pneumonia.

William R. Todd, Seattle; Rush Medical College, 1879; aged 90; at one time county physician of Eureka County, Nev., and of Clear Creek County, Colo.; died, April 23.

Christian P. Glahn, Palmyra, Mo.; Washington University, St. Louis, 1902; aged 45; health officer of Marion County; died, April 28, from lethargic encephalitis.

Louis Charles Sinclair, Ripley, Ont.; University of Toronto, Ont., 1896; died in the Kincardine (Ont.) General Hospital, March 7, from pneumonia.

Julius A. Goltz ● Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1887; aged 67; died, April 1, from cirrhosis of the liver.

Cyprian R. Wright, Frankton, Ind.; Medical College of Indiana, Indianapolis, 1888; aged 57; died, April 17, from carcinoma of the prostate.

Eldridge Allen Toby, River Falls, Wis.; University of Vermont, Burlington, 1874; aged 72; died, April 23, from cerebral hemorrhage.

Correction.—The notice of the death of Dr. Julius Jerome Goldstein which appeared in THE JOURNAL of May 1, is an error.

Marriages

ERASMUS DARWIN FENNER to Mrs. Sadie Cameron McDonald, both of New Orleans, April 28.

JESSE HENRY ROTH, Kankakee, Ill., to Miss Josephine McAuley of Chicago, recently.

RALPH TOWNSEND TRAVERS to Miss Catherine Davin, both of New York City, May 1.

CYRIL M. SMITH to Miss Ednah Katherine Kolkebeck, both of Brooklyn, Dec. 20, 1919.

GRANT GOULD SPEER to Miss Eunice Amanda Parker, both of Los Angeles, April 28.

WILLIAM W. ALDERDYCE to Mrs Litta Marie Crouse, both of Toledo, April 20.

WILLIAM SIMON CROWLEY to Miss Ethel Roth, both of Chicago, April 28.

Correspondence

TEACHERS IN THE PRECLINICAL SCIENCES

To the Editor:—For several weeks, nearly every number of THE JOURNAL has contained one or more statements by eminent professors in clinical departments in various medical schools, most of them delivered at the recent conference on medical education, damning the preclinical instructors. They state with absolute positiveness that the clinical departments should contain each its own pathologist, its own assistant skilled in physiologic technic, and others in other fields. Any dependence on the preclinical departments is thus to be rendered unnecessary, and the laboratory branches are to be left with even less clinical and hospital connection than at present. This aim appears to be everywhere a part of the plan for full-time clinical departments.

Soon after these addresses, the report of the committee of the National Research Council was published, revealing the really appalling conditions in the preclinical departments—the inferior pay and the lack of young men going into the medical sciences.

Now comes the report of the Council on Medical Education, Dr. A. D. Bevan, chairman, which indicts the preclinical instructors for being "ultrascientific," and states bluntly that only men with the M.D. degree should be allowed in the preclinical chairs, and these instructors must be "able to give students the medical point of view," and should be required "to keep in touch with the art and science of medicine."

Nor is this all. Three of the leading medical schools in the East have vacant chairs of physiology, and it is commonly reported that men fit to fill them are lacking in America, and that the importation of foreigners for one or more of them is under consideration. Such a rumor, even assuming it untrue, is a humiliation and discouragement to American physiologists and to American science in general. It indicates that something is fundamentally wrong.

The situation is: No man of the Ph.D. variety should be allowed in the preclinical chairs. No man of ability with the M.D. degree will in fact strive for them or stay in them, against the immensely greater opportunities and advantages offered now, and to be offered in even richer measures in the future, by the clinical departments. Unless something pretty radical is done and done soon, either these chairs will be filled by men with the Ph.D., or they will be vacant.

Perhaps the instruction in the medical sciences will then be given by the pathologic, physiologic, pharmacologic and other assistants, expert in each branch, who are to be included in the clinical departments. Until the freezing of the source brings about its inevitable result, this solution would have one great advantage to recommend it. It would attract, instead of repelling. Under it the young men giving

this instruction would have before them an open road to a future worth a man's efforts, namely, to become professors of medicine and surgery.

One committee, looking at matters from a standpoint opposite to that of the Council on Medical Education, has even advocated encouraging the development of preclinical instructors of the Ph.D. variety. But to get young men into the medical science through the avenue of the Ph.D. is, under present conditions, a cruel proposition. They get in; they cannot get out, as an M.D. could; and there is then nothing for them to do but to accept the starvation wages, perhaps a half of the pay of men no abler nor more loyal and industrious in the clinical chairs, plus such objurgation for their "lack of a medical standpoint" as the columns of THE JOURNAL have lately carried.

I am one of the men who, in spite of the handicap of the Ph.D., have devoted their lives to making what contribution they could to medicine. And I ask: How do Dr. Bevan and the others expect us to get or keep a medical standpoint? What opportunity have we? Suppose a man receives a call to the chair of medicine, and he asks "What will be my relation to the hospital?" The answer is, "Chief of everything in your field, with power and subordinates and money." Suppose, on the contrary, that a man is called to the chair of physiology, and asks the same question; the answer will be, "Nothing whatever." And as like as not there will be added, *sotto voce*, "We don't want you around the hospital; any applications of physiology to diagnosis, treatment or clinical research we will supply in our clinical departments." This is particularly true of the full-time clinical departments, as planned, according to every description thus far published. What would the surgeons say if the department of medicine put in a surgical assistant? Or how would the professor of medicine like to have the department of surgery include an internist in its staff? Yet each of these departments in many places insists on having its own pathologic laboratory with technicians and instructors.

Do not misunderstand. Not a word is here said against the "full-time plan." But if the difference in the status of the clinical and the preclinical instructors is made as glaring as is proposed, there is no question which field of life work the young man of ability will choose, and which he will reject.

We are stigmatized as "off horses," and yet we are not allowed in the team. Doubtless there will be exclamations over this: What can a physiologist do around a hospital? The answer is that he can have charge of the things which physiology has contributed: electrocardiography and sphygmography, basal metabolism, electrodiagnosis, blood analysis, respiratory analyses and tests, etc. The present inadequacy of clinical work regarding the hematorespiratory functions is simply monstrous.

The thing which, even more than low pay, is inhibiting the manufacture of physiologists is the lack of a market in which the product can be sold. To do business on any scale there must be some rapidity of turn over. At present an assistant starts in a physiologic laboratory, and after fifteen or twenty years he may become a professor. Think of a business with a turn over once in fifteen or twenty years! It is more like a cemetery than a career. Pathology and biochemistry have larger markets, in technical positions to be filled outside of schools, than physiology and anatomy; and they are doing correspondingly more business and are more alive.

But suppose that all this were changed, and that the doors of opportunity were open! The regular course of events for every young man fitting himself for the highest grade of clinical work would then begin (after a year in the hospital) with a couple of years spent entirely in a laboratory. He would then be promoted to one of the clinical physiologic instructorships, or some other liaison position, for example, in charge of the electrocardiograph. There, while still part of a laboratory department, he would come into contact with clinical phenomena and apply his laboratory training. He would become more and more interested in clinical medicine and would in a few years pass on into one of the clinical departments, leaving a place for the promotion of another man from the laboratory. There could then be a turn over every two or three years. One man in fifteen or twenty would finally become a professor of some preclinical branch. (There are only a dozen or two good positions of this sort to be filled in each generation in a nation of one hundred million people.) There would then be a group from whom

The difficulty about such liaison arrangements as those here clinical medicine, would be none the worse for their early contact with science beyond the student stage.

It would be a part of this plan also to cut down the required preclinical courses, and to enlarge the electives in junior and senior years in the various branches of clinical physiology and like subjects.

The difficulty about such liason arrangements as those here suggested is that they involve a system of functional organization and cooperation, instead of the system of water tight compartments which now prevails, and which practically every one who has discussed medical education lately seems to assume as a matter of course. They seem unaware of the fact that some of the largest and most ably managed industries in the country have discarded the water tight compartment system, and operate today under what is termed "functional organization." This is true, for example, of all the companies of the Bell Telephone System. There is urgent need that the authorities and donors who today are directing the development of medical education should inform themselves regarding that system, of which the fundamental principle is a real cooperation.

There are many physiologists in America who can say truly that the thing for which we have striven hardest and against the greatest inertia for many years has been the development of our lines of work into the clinical field. As chairman of the Section on Pathology and Physiology of the American Medical Association in 1911, I made the topic of my address "Clinical Physiology—An Opportunity and a Duty." The gentlemen who now attack us might advantageously look this paper up in the files of THE JOURNAL and reread, or at least, read it. It can be asserted without fear of successful contradiction, I believe, that in general the professors of physiology in America fulfil the duty described in that paper to the limit of their opportunities. It is the opportunity that is lacking.

YANDELL HENDERSON, PH.D., New Haven, Conn.
Professor of Physiology, Yale University
School of Medicine.

"BONDS NOT NECESSARY FOR PHYSICIANS"

To the Editor:—My attention has just been directed to your editorial comment under the caption "Bonds Not Necessary for Physicians" (THE JOURNAL, April 10, 1920, p. 1029).

I am sure that it was not your intention to direct your criticism against the legal profession as a whole, but your article does to a marked degree refer and reflect on all of the legal profession.

With reference to the specific matter at issue, I wish to state that I not only procured a supply of these blanks, but filled them out and took the acknowledgments in my office and made no charge of any kind or character, and there has never to my knowledge been any charge made in my office to members of the medical profession, for services of this

character. And I know this to be the general rule in our profession.

I was shown one of the circulars to which you refer, and I immediately took the matter up with the Bar Association of St. Louis, who promptly investigated the matter with the result that it was found that the party who had sent out the circulars in question was not a member of the Bar and was not licensed to practice law.

With these facts before you, I feel certain that you will wish to modify your article of April 10, which is a direct reflection on the legal profession as a whole.

S. C. BATES, Springfield, Mo.
Attorney and Counselor at Law.

[COMMENT.—Our comment did not reflect on the legal profession. The criticism was not on the fact that a charge was made for services. The circulars criticized conveyed the impression that a bond was necessary for physicians in order to secure a permit, and that the charge made was for the bond and not for the services. In any event, if physicians need legal assistance it would seem much better to utilize home talent.—ED.]

RAILROADS AS A SOURCE OF INFECTION

To the Editor:—In speaking of the spread of tropical diseases in the United States (THE JOURNAL, Feb. 14, 1920, p. 463), you do not mention what must be a prolific source of spread of any intestinal infections: the absolute lack of control of intestinal discharges of passengers on trains and boats. These discharges are daily scattered along all the routes of travel. Is it not time that some means were sought for a more sanitary way of disposing of them? I have no suggestions to offer, except that the separation of the urine and feces might make it more feasible to destroy the latter instead of sending them forth as a menace to the public health. Surely the Public Health Service, which has done so much in the way of public hygiene, could devise proper means for combating this evil.

R. W. DUNLAP, M.D., Chefoo, China.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THYROID EXTRACT IN REDUCTION OF WEIGHT

To the Editor:—I have had an inquiry in regard to the use of thyroid extract for persons greatly overweight. I wish you would make some observation in regard to this in Queries and Minor Notes.

J. D. GRAHAM, M.D., Columbus, Kan.

ANSWER.—When given in full dosage for long periods of time, thyroid extract produces anemia, emaciation and muscular weakness, excessive sweating, increased heart rate, etc. It will probably cause loss of weight, and with it faintness, loss of strength and debility. Thyroid extract has been used in some "fat reducers." It is far too dangerous a drug to be self-prescribed. If used at all for the reduction of weight, the patient should be under competent medical observation.

Training for Medical Research.—To qualify a man to be a skilled investigator in bacteriology, in physiology, and in chemistry, many years of special training are necessary. If it be realized that before a man is qualified to undertake an investigation for the prevention and cure of disease—the real object of medical research—he must have a knowledge of symptoms, it will be seen that a training is required which is bound to take a great many years.—J. MacKenzie, *Brit. M. J.* **1**:109 (Jan. 24) 1920.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

CALIFORNIA: San Francisco, June 28-July 1. Sec., Dr. Chas. B. Pinkham, 135 Stockton St., San Francisco.
DELAWARE: Wilmington, June 15-17. Pres. Medical Council, Dr. H. W. Briggs, 1026 Jackson St., Wilmington.
FLORIDA: Eclectic Board, Jacksonville, June 18-19. Sec., Dr. G. A. Munch, 1306 Franklin St., Tampa.
FLORIDA: Regular Board, Jacksonville, June 14-15. Sec., Dr. Wm. M. Rowlett, Citizens Bank Bldg., Tampa.
GEORGIA: Atlanta, June 9-11. Sec., Dr. C. T. Nolan, Marietta.
ILLINOIS: Chicago, June 14-17. Director, Mr. Francis W. Shepardson, Springfield.
IOWA: Iowa City, June 16-18. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.
KANSAS: Topeka, June 15-16. Sec., Dr. H. A. Dykes, Lebanon.
KENTUCKY: Louisville, May 17. Sec., Dr. A. T. McCormack, 532 W. Main St., Louisville.
LOUISIANA: New Orleans, June 10-12. Sec., Dr. E. W. Mahler, 141 Elk Place, New Orleans.
MARYLAND: Baltimore, June 15. Sec., Dr. J. McP. Scott, 137 W. Washington St., Hagerstown.
MICHIGAN: Ann Arbor, June 8-10. Sec., Dr. B. D. Harrison, 504 Washington Arcade, Detroit.
MINNESOTA: Minneapolis, June 1-4. Sec., Dr. Thos. McDavitt, 539 Lowry Bldg., St. Paul.
MISSOURI: St. Louis, June 14-16. Sec., Dr. Geo. H. Jones, State House, Jefferson City.
NATIONAL BOARD OF MEDICAL EXAMINERS: Philadelphia, May 19-26. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.
NEBRASKA: Lincoln, June 9-11. Sec., Department of Public Welfare, Mr. H. H. Antles, Lincoln.
NEW JERSEY: Trenton, June 15-16. Sec., Dr. Alexander MacAlister, State House, Trenton.
NEW YORK: New York, Albany, Syracuse, Buffalo, May 18-21. Assistant, professional examinations, Mr. Herbert J. Hamilton, Education Bldg., Albany.
NORTH CAROLINA: Raleigh, June 21. Sec., Dr. H. A. Royster, 423 Fayetteville St., Raleigh.
OHIO: Columbus, June 8-11. Sec., Dr. H. M. Platter, State House, Columbus.
RHODE ISLAND: Providence, July 1-2. Sec., Dr. Byron U. Richards, State House, Providence.
SOUTH CAROLINA: Columbia, June 22. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.
TENNESSEE: Memphis, Nashville and Knoxville, June 11-12. Sec., Dr. A. B. DeLoach, 1001 Exchange Bldg., Memphis.
TEXAS: Galveston, June 22-24. Sec., Dr. Thos. J. Crowe, Trust Bldg., Dallas.
VERMONT: Burlington, June 29-July 1. Sec., Dr. W. Scott Nay, Underhill.
VIRGINIA: Richmond, June 22-25. Sec., Dr. J. W. Preston, McBain Bldg., Roanoke.
WISCONSIN: Milwaukee, June 29-July 1. Sec., Dr. John M. Dodd, 220 E. Second St., Ashland.
WYOMING: Cheyenne, June 7-9. Sec., Dr. J. D. Shingle, Cheyenne.

Wyoming February Examination

Dr. J. D. Shingle, secretary of the Wyoming State Board of Medical Examiners, reports the written examination held at Thermopolis, Feb. 2-4, 1920. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Two candidates were examined, who passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery		(1918)	87.5
St. Louis University		(1906)	75

South Dakota January Examination

Dr. Park B. Jenkins, secretary of the South Dakota State Board of Health, reports the written examination held at Pierre, Jan. 13-15, 1920. The examination covered 13 subjects and included 105 questions. An average of 75 per cent. was required to pass. Of the 23 candidates examined, 22 passed and 1 failed. Five candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery		(1918)	83.2
College of Physicians and Surgeons, Chicago		(1908)	89.2
Northwestern University		(1916)	84.7
Rush Medical College	(1889) 85, (1916) 87.6,	(1919)	88.9
Indiana University		(1908)	89.9
Sioux City College of Medicine		(1906)	79.8
State Univ. of Iowa Coll. of Med.	(1897) 78.1,	(1904)	81
University of Louisville		(1909)	88
Harvard University		(1896)	84.6

Tufts College Medical School	(1915)	78.4
University of Michigan Medical School	(1919)	87.5
Nat'l Univ. of Arts and Sciences	(1915) 82, (1918)	78.2
Washington University	(1919)	81.4
John A. Creighton Medical College	(1911)	84.6
University of Nebraska	(1918)	86.8
University College of Medicine, Richmond	(1907)	81.9
Marquette University	(1913)	83.3
Montreal School of Medicine and Surgery	(1903)	85.2

FAILED

National Medical University, Chicago	*(1909)	59.2

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College		(1913)	N. Dakota
University of Louisville		(1908)	N. Dakota
University of Minnesota Medical School		(1916), (1919)	Minnesota
University of Bonn, Germany		(1898)	N. Dakota

*Official information on file indicates that this candidate was neither a student nor a graduate of the institution named.

District of Columbia January Examination

Dr. Edgar P. Copeland, secretary of the District of Columbia Board of Medical Examiners, reports the oral and written examination held at Washington, Jan. 13, 1920. The examination covered 16 subjects and included 80 questions. An average of 75 per cent. was required to pass. Eight candidates were examined, all of whom passed. Two candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Arkansas		(1917)	75.5, 75.8
Georgetown University		(1918) 81.6, (1919)	81.8, 86.8
George Washington University		(1919)	80.5
Howard University		(1918) 82.3, (1919)	87.3

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Howard University		(1902)	Virginia
University College of Medicine, Richmond		(1905)	Virginia

Florida March Examination

Dr. George A. Davis, secretary of the Florida Homeopathic Board of Medical Examiners, reports the written examination held at Jacksonville, March 16, 1920. The examination covered 7 subjects and included 70 questions. An average of 75 per cent. was required to pass. Of the six candidates examined, 3 passed and 3 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
State University of Iowa College of Homeo. Medicine		(1911)	82
Cleveland Medical College		(1897)	75
Cleveland University of Medicine and Surgery		(1895)	79

FAILED

Chicago Homeopathic Medical College	(1904)	69
Homeopathic Medical College of Missouri	(1880)	14
Homeopathic Hospital College, Cleveland	(1886)	67

Book Notices

TEXT-BOOK OF MEAT HYGIENE WITH SPECIAL CONSIDERATION OF ANTEMORTEM AND POSTMORTEM INSPECTION OF FOOD-PRODUCING ANIMALS. By Richard Edelmann, Ph.D., Medical Counsellor. Fourth edition by John R. Mohler, A.M., V.M.D., Chief, United States Bureau of Animal Industry. Cloth. Price $4.75. Pp. 472 with 166 illustrations. Philadelphia: Lea & Febiger, 1919.

When we consider that meat and meat products constitute a large part of the diet of the American people, physicians in this country cannot very well escape the obligation of possessing at least a general knowledge of the subject of meat inspection and meat hygiene in general, just as a modern pediatrician is of necessity interested in and must inform himself on the developments of milk hygiene. It will hardly do to shift all the responsibility in these matters to the shoulders of the veterinary inspectors. There is still some meat and game on the market that is not inspected; and even as regards that which is inspected, with the immense mass of material passing through the hands of the inspectors, it can scarcely be expected that no diseased carcasses and no faulty meat products will be overlooked. Some knowledge of the problems with which meat inspectors have to deal, and more especially of the abnormal conditions and diseases found in food-producing animals, will facilitate the diagnosis of pathologic conditions that arise from the consumption of meat or meat products which were not quite up to standard, but which escaped the watchful eye of the inspector or which deteriorated in quality in the interval that elapsed between the time when the stamp "U. S. Inspected and Passed" was affixed and the date of consumption. The book contains fifteen chapters, of which Chapters VII-XI will prove most interesting, as they cover such topics as the abnormal conditions and diseases of food-producing animals, postmortem changes of meat, the examination of preserved meats, chickens, game, fish, amphibia and crustaceans, and meat poisonings. As many diseases of the human body find their counterpart in animals, a comparative study of this sort will prove helpful; and for that purpose, the present work will furnish valuable aid.

THE NOSE, PARANASAL SINUSES, NASOLACRIMAL PASSAGEWAYS AND OLFACTORY ORGAN IN MAN. A Genetic, Developmental and Anatomico-Physiological Consideration. By J. Parsons Schaeffer, A.M., M.D., Ph.D., Professor of Anatomy of the Jefferson Medical College of Philadelphia. Cloth. Price, $10 net. Pp. 570, with 204 illustrations. Philadelphia: P. Blakiston's Son & Co., 1920.

This study of the embryology, development and anatomy of the human nose, accessory sinuses, olfactory organ, and related structures bears evidence of exhaustive observation and research. Special consideration is given throughout to the important matter of anatomic variations or so-called anomalies. The author first describes the general embryology and development of the special organs under consideration, and carries this through fetal life, infancy and childhood, adding numerous photographs and drawings of specimens and dissections throughout these various stages. In this chapter is also a consideration of congenital defects. The following chapter is devoted to the anatomy of the fully developed nose, wherein the structures are treated as a whole and in correlated groups and in individual detail with excellent illustrations, all combining to convey an illuminating knowledge of the anatomy of the nose itself. Each of the next four chapters is devoted to one of the nasal sinuses, namely, maxillary, frontal, sphenoidal and ethmoidal. Each sinus is described in the fetal, childhood and adult stage, with special consideration of anatomic variations as regards size, shape, location, septums, diverticula, duplication, etc. Mention is made regarding the relation of the sphenoidal sinus to the hypophysis cerebri, optic nerve and commissure, cavernous sinus, and its contained structures. A consideration of the nasolacrimal apparatus is followed by a description of the nasal mucosa with its histologic variations as to location, etc. There is then a chapter devoted to the blood and lymph-vascular systems, and another to the common sensory and sympathetic nerves. The next chapter describes the olfactory apparatus both as to its peripheral organ and central organ or olfactory brain. The final chapter treats of the physiologic functions of the nose. The volume is well written, and the illustrations are excellent.

ON FACIAL NEURALGIA AND ITS TREATMENT, WITH SPECIAL REFERENCE TO THE SURGERY OF THE FIFTH NERVE AND THE GASSERIAN GANGLION. By J. Hutchinson, F.R.C.S., Surgeon to the London Hospital. Cloth. Price, $4. Pp. 216, with illustrations. New York: William Wood & Co., 1919.

This book contains a practical discussion of the symptoms and diagnosis of tic douloureux, as well as of minor forms of neuralgic pains in the face due to demonstrable causes, such as carious teeth, ocular and nasal affections, and syphilis. The surgical anatomy is adequately presented and well illustrated; less must be said of the surgical treatment, which is not brought up to date. In particular, too little consideration is given to the greatly improved methods in gasserian ganglion and sensory root operations, perfected by American surgeons in the last fifteen years, while antiquated British methods are given preference. Considerable space is devoted to alcohol injections, especially to the work of the British imitators, while that of the French originators of the external method is scarcely considered. In spite of these shortcomings, however, this is a readable book, and will be found helpful by those especially interested in the subject.

Medicolegal

Workman's Compensation Before and After Amputation

(Addison v. W. E. Wood Co. et al. (Mich.), 174 N. W. R. 149)

The Supreme Court of Michigan says that the plaintiff suffered an accidental injury while in the employ of the W. E. Wood Company, and was paid compensation for total incapacity at the rate of $10 a week for fifty-four and one-third weeks. His foot was then amputated, and payments at the rate of $10 a week were continued until he had been paid and tendered compensation for 125 weeks, the compensation specified in the workmen's compensation law of Michigan for loss of a foot. It was contended for the defendants that the one injury which the plaintiff sustained resulted in the loss of a foot, entitling him to 125 weeks' compensation for such loss, to be computed from the date of the injury, the exact time when the foot was amputated having no material significance. But the industrial accident board awarded him compensation for total incapacity during the fifty-four and one-third weeks he was disabled without loss of any member, and after the operation continued compensation during 125 weeks more for loss of a foot; and the court affirms the award, concluding that the construction of law by the board as applied to the facts in this case was permissible within the wording, spirit and inferable intent of the law considered in all its provisions. It is within the spirit of the law, and does no violence to the wording of the sections considered, to construe them as authorizing compensation for existing total incapacity resulting from any injury to a member while medical skill is attempting to restore and save it, and until such time as developments have proved amputation necessary, followed by compensation for the loss of such member during the period fixed by the law after such loss becomes an actuality cognizable under the schedule.

Ratification of Employment of Physician

(Baker v. Brown & Hackney, Inc. (Ark.), 215 S. W. R. 578)

The Supreme Court of Arkansas says that the plaintiff, a practicing physician, sued the defendant, a lumber corporation, for $1,110 on account of medical services alleged to have been rendered at the instance of the defendant to one of its employees. The defendant denied that it employed the plaintiff to render medical aid to the employee. It appeared in evidence that the general manager of the defendant's business at the place where the employee that was injured worked was especially authorized by the defendant to employ first aid medical assistance in case of injury to the employees, received while performing their duties. He employed the plaintiff to render medical aid to the employee, who had received a serious injury while engaged in the line of his duty. No limitation or restriction was placed on the plaintiff as to the extent of the employment. The general manager testified: "I told him we wanted him taken the best care of." Immediately after the injury, the general manager wrote a letter to the defendant, informing it of the injury, and possibly his employment of the plaintiff to treat the employee. Shortly thereafter the general manager went to the city where the corporation had its general office, and informed an officer and manager of the corporation that, according to the plaintiff, the employee was in pretty bad shape. The plaintiff continued to render medical services to the employee, except for a short time on account of illness, from January 30 to July 22, making a total of 185 visits. A short time prior to June 19, the plaintiff presented a partial account for services to the defendant, which carried a liability policy on its employees, and, on receipt of the plaintiff's bill for $936, being a partial bill, sent it to an agent of the insurance company, and without replying to the plaintiff. The insurance company declined to pay plaintiff the bill on the ground that, under the terms of the policy, it was not responsible for first aid assistance or medical attention of physicians. When the evidence was concluded, the trial judge instructed the jury that the defendant was liable only for first aid services, in keeping with which instruction the jury was directed to return a verdict for the plaintiff for $24. In reversing the judgment rendered for that amount, and remanding the cause for a new trial, the supreme court says that the plaintiff conceded that the evidence was not sufficient to show general authority in the local general manager to employ physicians generally, but contended that there was sufficient evidence to present the issue of ratification by the defendant of the act of its agent in employing the plaintiff to treat the employee. It is a well-established rule that an employer may ratify the unauthorized acts of his agent by silence and acquiescence. There was no serious denial that the local general manager was the defendant's agent in the management of the lumber business at the place where the accident occurred. It might be, under the evidence recited above, that he exceeded his authority in the employment of the plaintiff to render medical assistance to the injured employee beyond first aid; but the evidence strongly tended to show that the defendant was apprised of the fact and remained silent. Under this state of case, the question of ratification should have been submitted to the jury. It was error to instruct the jury peremptorily to render a verdict for first aid only.

Infection Carried from Toe to Face

(Bethlehem Shipbuilding Corporation, Limited, v. Industrial Accident Commission et al. (Calif.), 185 Pac. R. 179)

The Supreme Court of California, in affirming an award under the workmen's compensation act for the death of one Caffrey, says that on Friday, July 26, 1918, he sustained a contused wound of the great toe of his right foot. He continued at his work Saturday, and also the following Monday. On Monday he had the toe dressed at an emergency hospital. Tuesday, the foot was so painful that after starting to work he returned home and undertook to treat the toe himself. August 1, he complained of a swelling of the face. On the following day, the symptoms of the face became alarming, and he was removed to a hospital, where it was discovered that there was a streptococcic infection of the injured toe. The skin surrounding the toe was in an erysipelatous condition, and there was a development of erysipelas on the face. The facial infection resulted in septicemia, from which he died, August 8. The industrial accident commission found that the germs which caused the facial infection were carried from the toe to the face by external means, and that Caffrey's death was proximately caused by the original injury. The medical testimony on which the commission based its finding that the germs which caused the facial infection were carried from the toe to the face by external means was, in effect, that such a method of transfer was exceedingly common, the transmission of the germs being very readily accomplished; that there was no reason to suppose that the infection had come from another source than the toe, and that, while it was within the realm of possibility for the infection to have come from another source, such a hypothesis was so very much the least probable that it seemed useless to theorize as to such a possibility in the face of facts indicating that the germs certainly must have been carried from the foot. The testimony showed that the experts were not indulging in mere conjecture or speculation. They were given what, on the facts before them, and in the light of medical science, appeared to be the most probable explanation of the event.

Moreover, in the light of medical knowledge properly presented to the commission that such a transfer of a streptococcic infection from a discharging wound as that found to have taken place in Caffrey's case was not only possible but highly probable, the court is of the opinion that the fact that the germs reached the face by external means and not through the system could not, as a matter of law, be said in itself to have broken the chain of causation.

Nor does the court think that Caffrey's conduct was such as to require a finding of negligence on his part. He was, of course, under a duty to use reasonable care to restore himself to health. But if he conducted himself as would a reasonably prudent person in his situation and circumstances, and innocently enhanced the original injury, it was within the province of the commission to find that the

original cause continued to the end and accomplished the final result, and was therefore the proximate cause. He might have had free treatment at the hospital maintained by the corporation for its employees, but he chose instead to remain at home and treat the foot himself with witch hazel and iodin. In the light of subsequent events, this was an unfortunate decision. The court is, however, unable to say as a matter of law that the commission was bound to find that, under all the circumstances appearing at the time, it was a decision so unreasonable and imprudent as to amount to a breach of his duty to use due care to restore himself to health.

Evidence Touching Testamentary Capacity

(In re Swain's Estate (Iowa), 174 N. W. R. 493)

The Supreme Court of Iowa, in affirming a judgment holding invalid a will contested in this case, says that it is true that a man may be a drunkard and yet not necessarily incapable of making a valid will. He may be grossly immoral and filthy, and still not be of unsound mind in the legal sense of the word. He may be quarrelsome, or abusive, or profane, or eccentric, and yet not necessarily incompetent; but when very many of these characteristics are found uniting in a single character, and there is added thereto the testimony of experts that such a showing indicates a loss or decay of mentality, a verdict to that effect by the jury cannot be disregarded. Much of the complaint made by counsel in this case related to the refusal by the trial court to instruct the jury that evidence showing the testator had syphilis, that he frequented houses of prostitution, and indulged in other unclean and filthy practices, was immaterial and should not be considered as having any bearing on the question of his mental soundness. None of these objections were sound. It is true that no one of such acts, practices or habits is, as a matter of law, necessarily inconsistent with the theory of testamentary capacity; but this is not to hold that proof of such facts may not be considered with other facts as tending to show mental unsoundness. Men of sound mind do not, as a rule, so conduct themselves. With the normal man a sense of shame and regard for the decencies of life operate as some restraint on his conduct, and this is especially true with the normal man who has outlived his youthful follies and has left mentality enough to realize that his career is drawing to a close. Moreover, where the validity of a will is being contested, physicians who treated the maker of the will in his lifetime may be examined by the contestants of the will concerning knowledge so acquired by them in their professional capacity, under the Iowa decisions that it is not a violation of professional confidence protected by the Iowa statute.

Society Proceedings

COMING MEETINGS

American Assn. of Genito-Urinary Surgeons, Rochester, Minn., May 31.
American Climatological and Clin. Assn., Philadelphia, June 17-19.
American Gynecological Society, Chicago, May 24-26.
American Laryngological Association, Boston, May 27-29.
American Medico-Psychological Assn., Cleveland, O., June 1-4.
American Ophthalmological Society, Hot Springs, Va., June 15-16.
American Orthopedic Association, Toronto, Ont., June 7-10.
American Otological Society, Boston, May 31-June 1.
American Pediatric Society, Highland Pk., Ill., May 31.
American Psychopathological Assn., Cleveland, O., June 5.
Arkansas Medical Society, Eureka Springs, June 8-9.
Association of American Peroral Endoscopists, Boston, June 1.
Canadian Medical Association, Vancouver, B. C., June 22-25.
Connecticut State Medical Society, New Haven, May 19-20.
Illinois State Medical Society, Rockford, May 18-20.
Massachusetts Medical Society, Boston, June 8-9.
Michigan State Medical Society, Kalamazoo, May 25-27.
Nebraska State Medical Association, Omaha, May 24-26.
Nevada State Medical Association, Lake Tahoe, June 25-26.
North Dakota State Med. Assn., Minot, June 15-16.
Ohio State Medical Association, Toledo, June 1-3.
Oklahoma State Medical Association, Oklahoma City, May 18-20.
Rhode Island Medical Society, Providence, June 3.
Southern Minnesota Medical Assn., Fairmont, Minn., June 28-29.
South Dakota State Medical Association, Sioux Falls, May 18-20.
Western Electro-Therapeutic Association, Kansas City, Mo., May 27-28.
West Virginia State Medical Association, Parkersburg, May 18-20.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

April, 1920, **19**, No. 4

*Infant and Child Mortality, Including Miscarriages and Stillbirths. H. Schwarz, New York City.—p. 249.
*Experimental Work with Sodium Cacodylate on Athreptic Infants. F. S. Clarke and A. Dow, Omaha.—p. 260.
*Prognosis in Operated Cases of Hypertrophic Stenosis of Pylorus. A. Goldbloom and R. C. Spence, New York.—p. 263.
New Method for Determining Coagulation Time of Blood in New-Born. F. C. Rodda, Minneapolis.—p. 269.
Roentgen-Ray Demonstration of Abnormalities of Gastro-Intestinal Tract in Children. C. G. Kerley, New York.
Résumé of Literature on Tuberculous in Children During 1918 and 1919. M. Michael, Chicago.—p. 287.

Infant and Child Mortality.—The material for Schwarz's paper was taken from the social histories of 10,000 families. In 6,968 families there were 27,711 pregnancies, including miscarriages and stillbirths, an average of 3.9 per family. Of these 27,711 pregnancies, 2,239 were miscarriages and 413 were stillbirths; that is, there were 3.6 live born children to each family. The total number of deaths under 1 year of living births were 3,232. From the first to the eighth year there were 1,081 additional deaths, or a total of 4,313 deaths of living births. Taking all the deaths up to 8 years, including miscarriages and stillbirths, of the 27,711 pregnancies, 6,965 babies, or 25 per cent., died. The miscarriage rate in these families was 80.7 per thousand of all pregnancies and 89.3 per thousand of living births. The infant death rate (up to 1 year of age) in this group of families was 128 per thousand living births. A contrast to this figure is the death rate of 70 per thousand in this same group of families of only those of their children who, during the ten years, were under medical care. This figure, which shows a saving of 58 infants per thousand living births, proves conclusively what supervision, education and care can accomplish. The child death rate (up to 8 years) reached 172 per thousand. In other words, 172 out of every thousand children born alive, died before they reached the age of 8 years. The stillbirth rate per thousand total pregnancies was 14.9, and per thousand living births it was 16.4. The death rate, in early infancy, of children of native born parents, greatly exceeds that of the foreign element. The miscarriage rate is greatest when both parents are native born and least when both parents are foreign born. The literate have more miscarriages than the illiterate. There were 358 literate families with an infant mortality rate of 111 per thousand born, and 133 illiterate families with an infant mortality rate of 172 per thousand born. It does seem that educatioon is a very important factor.

Use of Sodium Cacodylate in Athreptic Infants.—Six athreptic infants were selected by Clarke and Dow for study. A von Pirquet and a blood Wassermann from each infant proved negative. A routine urine examination yielded similar negative results. Eight injections of sodium cacodylate were given in all, at intervals of four days. All injections were given intramuscularly and hypodermically. The youngest infant, 6 months old, received one-quarter grain, as an initial dose; the oldest, 15 months old, three-quarters grain. The dosage was gradually increased till the youngest was receiving three-quarters grain and the oldest 1 grain. The maximum dose at any one time was 1 grain. A blood examination was done on all the infants before the injections were begun. A second examination was done after two injections, and a third after the last injection. The red and white cell count remained nearly uniform throughout, nor was there any marked change in the differential count. There was, however, a striking increase in the hemoglobin in all the children. Three children showed an increase of five points; one child of ten points; one twenty points, and one twenty-five points. One child failed to gain in weight during the injections, but in the month succeeding gained 1 pound, 10 ounces. Three children gained approximately 2 pounds,

and two gained 1½ pounds. These gains have been continued since stopping the treatment. They all improved in nutrition and seemed to be more hungry for their food when feeding time arrived. Therefore, the authors conclude that carefully graduated doses of sodium cacodylate, when injected hypodermically into infants, has no toxic influence.

Prognosis in Operative Cases of Hypertrophic Pyloric Stenosis.—Goldbloom and Spence analyze 163 cases in which a Rammstedt operation was performed. One hundred and thirty-one children recovered and thirty-two died, a mortality of 19.63 per cent. It was evident that the operation per se is, perhaps, the least important factor in the mortality. The condition of the baby at the time of operation is the most important factor. Fourteen babies died from collapse from one to three days after operation, and five died from general peritonitis. One child died of bronchopneumonia complicating whooping cough, and one child died from postoperative hemorrhage on the third day after operation. The remaining eleven deaths were from marasmus and occurred in from three to twenty-five days after operation. In all cases, then, except the seven in which death was due to complications, the fatal result can definitely be attributed to a state of inanition existing at the time of operation. The mortality in artificially fed babies is more than three times that for the breast fed babies. In infants weighing 7 pounds or less, the mortality was three and one-half times as great as in those who weighed more than 7 pounds. The mortality increases in direct proportion to the amount of weight lost previous to operation. The mortality for breast fed infants who had vomited less than four weeks and who had lost less than 20 per cent. of their best weight is almost nil. The fatalities which occur are due to accidents usually avoidable when the operation is done by a skilful surgeon.

Bulletin Johns Hopkins Hospital, Baltimore

March, 1920, **31**, No. 349.

*Unrecognized Pathway for Bacterial Invasion of Respiratory Tract. M. C. Winternitz, G. H. Smith and E. S. Robinson, New Haven, Conn.—p. 63.
German Nutrition, 1914-1919. C. C. Mason, U. S. Army.—p. 66.
Pathologic Changes in Gasteropod Liver Produced by Fluke Infection. E. C. Faust, Peking, China.—p. 79.
III. Fate of Influenza Bacilli Introduced into Upper Air Passages. A. L. Bloomfield, Baltimore.—p. 85.
*Muscular Work During Hypnosis. N. C. Nicholson, Baltimore.—p. 89.
The Granules, Vacuoles and Mitochondria in the Sympathetic Nerve-Fibres Cultivated in Vitro. T. Matsumoto, Chiba, Japan.—p. 91.

Infection Route in Respiratory Tract.—The submucosa of the trachea contains a rich plexus of lymphatics, prominent everywhere and devoid of valves. At the bifurcation of the trachea anastomosis occurs with similar plexuses in the bronchi, and this phenomenon is repeated throughout the region of the cartilage-bearing bronchi. At the bifurcation of the trachea, as well as of the bronchi, there is drainage to the lymph glands and anastomosis with periarterial and peribronchial lymphatics. When the lymphatics are injected, the larger portion of the material is diverted at these bifurcations, but continuity of the lymphatic system in the tracheal and bronchial submucosae is demonstrable. Winternitz and his associates found that pneumococci introduced by needle puncture through the skin into the lumen of the trachea or by insufflation, provided the insufflation catheter damages the epithelium of the trachea, spread by way of the lymphatics to the lung. The lymphatics of the submucosa of the trachea, then, afford a direct pathway of infection to the lung. Although this lymphatic system provides a pathway for infection, it may also serve as a protective mechanism against pulmonary infection, for the drainage of the submucosa of the trachea and bronchi is largely diverted as the lung is approached to the protecting regional lymph glands.

Fate of Influenza Bacilli in Respiratory Tract.—Three strains of influenza bacilli introduced by Bloomfield in large amounts into the normal upper air passages disappeared very rapidly within from one to two days. In no case was a carrier state produced. In no case did any local or general pathologic process result from such inoculation. In five instances influenza bacilli isolated later than twenty-four hours after inoculation were shown to be different strains from those introduced. Influenza bacilli were no longer viable after being suspended in saliva for twenty-four hours at 37 C. The rapid disappearance of influenza bacilli from the upper air passages is probably due to the combination of an unfavorable environment with the mechanical flushing processes at work in these regions. Bloomfield is of the opinion that the question of the persistence of influenza bacilli in normal throats cannot be finally settled until we possess accurate methods for differentiating various strains of hemophilic bacteria.

Muscular Work During Hypnosis.—In order to determine the effects of suggestion on muscular efficiency and record the findings objectively, a Mosso ergograph was used by Nicholson as the instrument best adapted to fulfil these requirements. Only those subjects were used who could be placed in the deepest hypnotic sleep—the state characterized by cataleptic rigidity. The records secured show that a very definite increase in muscular efficiency can be obtained by suggestion in the hypnotic state and that suggestions given even while the subject is fully awake influence muscular efficiency to some extent. The increased efficiency during hypnosis shows itself in three ways: (1) By an increase in the actual amount of work done. In fact, during the hypnotic sleep the capacity for work seemed practically endless. (2) By and increase in endurance. (3) By a decrease in fatigue, both subjective and objective. After work in the hypnotic sleep the subjects never complained of any fatigue, nor could questioning elicit any signs of fatigue, whereas after performing a much smaller amount of work in the waking condition they frequently complained of being quite tired and exhausted and always on being questioned stated they were fatigued. The records show the absence of any objective fatigue.

Bulletin of Lying-In Hospital of City of New York

March, 1920, **13**, No. 1

*Chemical Examination of Blood and Urine in Normal Pregnancy and in Toxemia of Pregnancy. J. R. Losee, New York.—p. 38.
Executive Management of a Clinic for Babies. E. L. Coolidge, New York.—p. 57.
*Blood Transfusion in Obstetrics. J. R. Losee, New York.—p. 65.

Chemical Examination of Blood and Urine in Pregnancy.—The twenty-one cases investigated by Losee fall into four groups, normal pregnancy, preeclampsia, eclampsia and pernicious vomiting. In the diagnosis of eclampsia a large amount of albumin in the urine and a normal blood urea are the most significant laboratory findings. Although modern biochemical technic is of great scientific interest and has marked clinical value in some diseases, and, whereas, it has disproved such theories as the acidosis, the amino-acid, and nitrogen retention as a cause of toxemia of pregnancy, it affords little assistance in the daily routine of clinical obstetrics.

Blood Transfusion in Pregnancy.—Losee has performed this operation seventy-eight times on seventy patients suffering from the complications of labor. Sixty-one were done by the syringe cannula method and seventeen by the citrate method. There were fourteen deaths in this series and all but one was undoubtedly due to the disease from which the patient was suffering. The latter, which may or may not have been due to transfusion, occurred early in the series, was an emergency and no preliminary tests were made. There were thirty patients on whom the operation was performed for hemorrhage or hemorrhage and shock, twenty-nine who were suffering from postpartum hemorrhage and localized pelvic sepsis, seven who had either bacteremia, septic thrombophlebitis of the pelvic veins or general peritonitis and four with toxemia of pregnancy of the pernicious vomiting type. Of the thirty patients suffering from acute hemorrhage due either to placenta previa, postpartum hemorrhage, premature separation of the placenta, ruptured ectopic or ruptured uterus thirty-two transfusions were performed and six patients died. There were twenty-nine patients with anemia secondary to postpartum hemorrhage and localized pelvic sepsis on whom thirty transfusions were done. They all completely recovered although some of them seemed critically ill on admission.

Four cases of toxemia of pregnancy of the pernicious vomiting type have been transfused with two deaths but here again it is only a supportive measure.

California State Journal of Medicine, San Francisco

April, 1920, 18, No. 4

Board and Staff Organization of Hospitals. W. E. Musgrave, San Francisco.—p. 117.
Organization of Metabolism Unit. N. W. Janney, Santa Barbara. —p. 118.

Canadian Medical Association Journal, Toronto

April, 1920, 10, No. 4

*Obstetrics and the State. K. C. McIlwraith.—p. 305.
Genesis, Classification, Interrelationships and Clinical Diagnosis of Disease. H. B. Anderson.—p. 314.
Headache of Nasal Pharyngeal and Aural Origin. P. G. Goldsmith. —p. 328.
*Fifty-Eight Cases of Delayed Arsenical Poisoning Following Administration of Arsphenamin Preparations. G. S. Strathy; C. H. V. Smith and B. Hannah.—p. 336.
Lessons from War Surgery. J. A. Gunn.—p. 354.
Primary Sarcoma of Mediastinum, with Postmortem. J. A. Street. —p. 362.
Chronic Diarrhea Associated with an Adenoma of Thyroid Gland. A. H. Gordon and A. T. Bazin.—p. 365.
Submaxillary Salivary Calculus. A. T. Bazin.—p. 366.
Erythema Multiforme Mistaken for Lesions Due to Chemical Poisoning. G. G. Campbell.—p. 368.
Veil Pin in a Bronchus. Removed Through Bronchoscope. R. H. Craig and W. A. Wilkins.—p. 370.

Obstetrics and State.—Many enthusiasts for maternal insurance, according to McIlwraith, carry the idea to extreme lengths, advocating motherhood insurance or practically the state support of the mother. Extremes of this kind seem to lead directly to bolshevism. Among the insurance benefit which the state might assume, in his opinion, would be the provision of sterilized dressings, sheets, etc., for the accouchement, and in some cases for nursing and medical attendance. Then, too, the authorities should be the judges as to whether the patient should be confined at home or in a hospital.

Arsenical Poisoning Following Use of Arsphenamin.—Fifty-eight cases of delayed poisoning following the administration of arsphenamin and mercury were observed by the authors in military hospitals and in private practice. Forty-seven of these showed symptoms referable to the liver, namely: jaundice, decreased digestive power and liver atrophy. Eight of these were fatal and at necropsy showed marked atrophy of the liver. Dermatitis occurred in eight cases. Five were severe with marked exfoliation. Peripheral neuritis was observed in two cases. Albuminuria was present in over 50 per cent. of the cases. Edema was found in two cases. The onset of the symptoms seldom occurred until five weeks after the administration of arsphenamin had ceased. The earliest symptoms of arsphenamin poisoning of the liver were, bile in the urine, albuminuria, loss of appetite and jaundice. Dermatitis with atrophy of the liver occurred in one patient who received arsenic in the form of Fowler's solution, 5 minims, three times daily, for five months.

Primary Sarcoma of Mediastinum.—A woman, aged 34, had sudden onset of pain in the left chest; increasing dulness in the left chest and mediastinum; nonhemorrhagic pleural effusion, left side; heart progressively forced to right; increasing difficulty in breathing; stridor; paralysis of left recurrent laryngeal nerve; increasing weakness of voice; persistent and increasing cough becoming brassy in character; no sputum. Emphysema developed in the right lung. Two positive Wassermanns were apparently unrelated to the principal disease. Roentgen-ray examination showed a dense shadow in the left lung area. This proved to be caused by a mediastinal sarcoma, involving also the left lung, trachea and right primary bronchus.

Georgia Medical Association Journal, Atlanta

March, 1920, 9, No. 11

*Trichocephaliasis and Appendicitis: Report of Case. L. Hannah, Sandersville.—p. 69.
Acidosis—Alveolar Air-Tension Compared with Urine Acidity. T. D. Walker, Jr., Macon.—p. 71.
Pernicionsness of Considering Rest Cure a Panacea for "Nervous People." W. W. Young.—p. 73.
Fatigue. R. J. Holmes, Wadley.—p. 74.
Use of Radium in Treatment of Epithelioma. C. Swanson, Atlanta. —p. 75.
Significance of Stools in Infancy. M. M. McCord, Rome.—p. 78.
Etiology of Thrombo Angeitis Obliterans. S. J. Sinboe, Atlanta. —p. 81.

Trichocephalus Infection Following Appendectomy.—In the case cited by Hannah, the symptoms of postoperative abdominal adhesion were simulated by a *Trichocephalus trichiuris* infestation. Discovery of these parasites resulted from examination of the blood smear, with reference to the eosinophilia. Helminthiasis previously had never been suspected, as no gastro-intestinal symptoms were evident. The patient had been operated on for appendicitis, hence it was at first believed that the symptoms were caused by postoperative adhesions.

Illinois Medical Journal, Oak Park, Ill.

April, 1920, 37, No. 4

*New Skin Suture Material. E. H. Ochsner, Chicago.—p. 229.
War Neuroses and Psychoses: After Care and Treatment. F. P. and F. G. Norbury, Jacksonville.—p. 232.
Doctor and Public Health. C. St. C. Drake, Springfield.—p. 237.
Physician as an Investor. G. F. Lydston, Chicago.—p. 241.
Physicians' Fees. C. A. Buswell, Chicago.—p. 245.
Ophthalmologist and Otologist; Retrospectively and Prospectively Considered. J. S. Clark, Freeport.—p. 248.
Diagnostic Hysterotomy. B. G. R. Williams, Paris.—p. 254.
Influence of Carbohydrates and Fats on Nitrogen Equilibrium. A. Kraft, Chicago.—p. 255.
Why Have Both Primary Focal Infection and Subsequent Pulmonary Tuberculous Disease Their Origin Nearly Always in Air Vesicles and Not in Bronchial Tubes? J. Ritter, Chicago.—p. 257.
Surgical Technic in Tonsillectomy. J. Z. Bergeron, Chicago.—p. 261.
Health Insurance from Standpoint of Physician. C. J. Whalen, Chicago.—p. 264.

New Skin Suture Material.—The suture material used by Ochsner is made by treating silk chemically so that the tissue cells cannot penetrate the meshes of the silk. In addition, it renders the silk smoother, a little stiffer with less of a tendency to snarl, in fact, overcomes all of the objections to silk as a coaptation suture without robbing it of any of its desirable qualities. This material is said to overcome all the objections which can be raised against other suture materials.

Journal of Industrial Hygiene, Boston

April, 1920, 1, No. 12

*Significance and Treatment of Varicose Veins. J. Homans, Boston. —p. 567.
Industrial Dental Clinic from Standpoint of Industrial Surgeon. R. W. Elliott, Cleveland.—p. 575.
Charles Turner Thackrah. A Pioneer in Industrial Hygiene. T. M. Legge, London.—p. 578.
A Lecture on Sex and Venereal Disease Hygiene. E. B. Vedder, U. S. Army.—p. 582.
Twenty Years' Experience of Notification of Industrial Disease. T. M. Legge, London.—p. 590.

Treatment of Varicose Veins.—Forty-eight cases form the basis of Homans' paper on this subject. He points out that operative treatment to be efficient must permanently break the column of blood between the abdominal vessels, which have no valves, and the surface capillaries. If it accomplishes this, it permits the restoration of a considerable amount of surface venous circulation through small veins which have not been distended by the stagnation in the main venous channels. It does away with stagnant blood on the surface—blood which keeps pouring down the distended vessels and increases the work of the still normal deep veins. It thus removes veins which are worse than useless and affords real comfort, but as it does not restore the original surface circulation, it cannot be said to return the patient to an absolutely normal condition. In other words, a perfect surgical result may not make the leg as good as new. At the Peter Bent Brigham Hospital, the so-called Corliss stocking is used with good result as a form of palliative treatment. The so-called "jelly" bandage, which is nothing more than gauze permeated with a paste originally devised by Unna, is also useful.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

March, 1920, 15, No. 1

*Physiologic Action of Fumes of Iodin. A. B. Luckhardt, F. C. Koch, W. F. Schroeder, and A. H. Weiland, Chicago.—p. 1.
Action of Pilocarpin, Atropin and Epinephrin on Tonus Waves in Terrapin Heart. C. M. Gruber, Colorado.—p. 23.

*Action of Gum Acacia on Circulation. W. M. Bayliss, Condon.—p. 29.
Nonclotting Blood Pressure Apparatus. P. D. Lamson, Baltimore. —p. 75.
*Minimum Concentration of Dichlorethysulphid (Mustard Gas) Effective for Eyes of Man. C. I. Reed, Washington, D. C.—p. 77.
Pressor Compound from Pituitary Gland. A. C. Crawford, San Francisco.—p. 81.

Physiologic Action of Iodin Fumes.—On the basis of the results reported in this study there seems to be no question that the fumes of iodin are absorbed from the skin and by the pulmonary tissue. The negative results reported in man when the fumes and tincture were applied to the skin, are said to find a probable explanation in the fact that the urine and saliva were not collected over a long enough period of time. As a result of fuming the skin with the vapors of iodin the iodin content of the thyroid gland is greatly increased. The increase in iodin is accompanied by a pronounced change in the histologic features of the gland which clearly indicate an absorption of iodin. Iodin fumes when inhaled are absorbed by the respiratory tract; for the excess of iodin appears promptly in the urine and the iodin content of the thyroid gland is invariably increased, accompanied by a corresponding change in the histology of the gland. The indiscreet use of iodin fumes for inhalation leads to respiratory disturbances characterized by a dyspnea due to an inflammatory reaction in the lungs as result of the irritating action of the fumes. When iodin fumes are inhaled in quantities greater than 18 mg. per kilogram body weight, the animal dies within twenty-four hours from acute pulmonary edema. Intratracheal administration of iodin fumes leads to a temporary moderate rise in blood pressure and acceleration in the rate and increase in the amplitude of the respiration. The temporary rise is followed soon after by a more pronounced fall in the arterial pressure from which the animal partially recovers. After maintaining this pressure for a more or less prolonged period of time, the arterial pressure drops quite quickly. It is during this period that the signs and symptoms of acute pulmonary edema become quite marked. The respiration decreases in both rate and amplitude and ceases while the heart in the majority of instances shows a decided vagal inhibition.

The cause of death is an acute and rapidly developing pulmonary edema involving chiefly the basal portions of the lung. The edema supervenes more rapidly in animals having respiratory disease (tracheitis and bronchitis of beginning distemper) than in normal animals. It is clear therefore that the administration of iodin fumes by inhalation is a dangerous procedure. Such administration in persons with pulmonary disease is absolutely contraindicated.

Action of Gum Acacia on Circulation.—It is claimed by Bayliss that a solution of gum acacia of 6 or 7 per cent. in 0.9 per cent. sodium chlorid is capable of effectively replacing lost blood, unless the loss amounts to more than 75 per cent. of the blood volume. Hence its use in hemorrhage from various causes, whether from injury, disease or in operations. It has no chemical or druglike action and can be used in large quantities. It can also be used with benefit when the blood volume is reduced owing to removal of a part from effective circulation by stagnation in the capillaries, as happens in wound shock, traumatic toxema and probably in similar conditions. In such cases, its primary object is to maintain a normal circulation until the toxic products are eliminated from the blood, while the blood out of circulation is restored to use. Neither gum nor blood has any permanent effect when the blood vessels are deprived of control by the vasomotor centers. Gum acacia does not produce anaphylaxis nor hemolysis. Nor does it agglutinate the blood corpuscles in man, although it does so in vitro in the case of some cats. This latter phenomenon does not appear to occur while the blood is in circulation, and is not followed by hemolysis, even in vitro. The addition of gum acacia to fluids used for perfusion of organs is recommended on account of the relative absence of edema.

Effect of Mustard Gas on the Eyes.—Reed found that concentrations of "mustard gas" of 0.0005 mg. per liter of air (1 part in 10,000,000), will produce visible reactions in less than one hour of exposure of individuals whose cutaneous resistance is relatively high.

Kentucky Medical Journal, Bowling Green

April, 1920, **18**, No. 4

Tuberculous Peritonitis. C. A. Vance, Lexington.—p. 93.
Community Sanitation. I. L. Denton, Fordsville.—p. 97.
Acute Surgical Diseases of Abdomen. J. Y. Welborn, Evansville. —p. 99.
Propaylactic Vaccines Against Influenza and Pneumonia. W. R. Thompson, Mt. Sterling.—p. 102.
Surgery from Standpoint of Average Doctor. T. J. Marshall, Bardwell.—p. 103.
Plaster of Paris in Throat. J. P. Edwards, Middlesboro.—p. 104.
Diagnostic Value of Roentgen Ray in Lung and Mediastinal Disease. V. Blythe, Paducah.—p. 105.
Case for Diagnosis. J. G. Sherrill, Louisville.—p. 106.
Blindness of Obscure Origin; Probably Due to Sinus Disease. S. G. Dabney, Louisville.—p. 107.
Epidemiology of Communicable Diseases and Discussion on Treatment —p. 108.
Syphilitic Aortitis; Case Report. J. R. Morrison, Louisville.—p. 121.
Traumatic Laryngeal Edema; Case Report. I. A. Lederman, Louisville.—p. 122.
Focal Infection in Relation to Bones and Joints. P. C. Layne, Ashland.—p. 122.
Obstruction: Report of Cases. H. Rivers, Paducah.—p. 125.
Diagnostic Significance of Vertigo to General Practitioner. J. D. Heitger, Louisville.—p. 130.
What Can We Do For Inoperable Cancer Patient? A. H. Barkley, Lexington.—p. 131.

Laryngoscope, St. Louis

March, 1920, **30**, No. 3

Decrease of After Nystagmus During Repeated Rotation. C. R. Griffith, Urbana, Ill.—p. 129.
*Two Cases of Gradenigo's Syndrome. J. L. Maybaum, New York. —p. 138.
Cerebellar Abscess Associated with Chronic Suppurative Otitis Media: Operation and Recovery. J. C. Keeler, Philadelphia.—p. 143.
New Method for Closing off Eustachian Tube in Radical Mastoid Operation. A. Kahn, New York.—p. 146.
Brain Abscess as a Complication of Acute Infection of Nasal Accessory Sinuses. L. W. Jessaman, Framingham, Mass.—p. 147.
Tuberculosis of Larynx: Report of Cases. H. Kunz, New York.—p. 150.
Incomplete Mastoid Operation as a Cause of Delayed Healing. F. T. Hill, Waterville, Me.—p. 154.
An Adenoidoscope or Soft Palate Retractor. A. Kahn, New York. —p. 163.
Lupus of Upper Air Passages. R. Webber.—p. 164.

Gradenigo's Syndrome.—This syndrome is characterized by an acute purulent otitis media, with or without mastoid involvement; intense pain in the temporal and parietal regions from involvement of the gasserian ganglion, and paralysis or paresis of the abducens nerve of the same side as the aural lesion. Such a group of symptoms occurring during the course of a middle ear suppuration or of an acute mastoiditis, before or after operation, may occasion considerable apprehension of an intracranial complication. In the cases reported by Maybaum these symptoms presented in more or less characteristic manner. In one case, the complication occurred two weeks after a simple mastoid operation, while the patient was making a satisfactory convalescence. Complete recovery followed without any further surgical intervention. In the second case, there was a history of an acute middle ear suppuration which had completely resolved at the time Maybaum first saw the patient, the syndrome had been present, with lessening severity, for a period of ten days; there was entire absence of signs or symptoms of mastoid involvement. A fulminant type of meningitis developed, from which the patient succumbed the following day.

Michigan State Med. Society Journal, Grand Rapids

April, 1920, **19**, No. 4

Roentgen Ray as Aid in Early Recognition of Postoperative Ileus. J. T. Case, Battle Creek.—p. 151.
Shock, Hemorrhage and Blood Transfusion. R. C. Lockwood, Detroit.—p. 154.
*Acriflavine in Treatment of Venereal Conditions. R. Rosen, Detroit —p. 161.
Community Hospital. J. G. R. Manwaring, Flint.—p. 165.
Report of Psychologic Division of Michigan Department of Health for April, May and June, 1919. F. A. Foster.—p. 167.
Acidosis: Determination by Means of H-ion Concentration. T. L. Hills, Kalamazoo.—p. 171.

Acriflavine in Venereal Disease.—According to Rosen, acriflavine has not answered the requirements of an ideal gonococcide clinically but it is a valuable addition for the treatment of venereal conditions. It would be an ideal gonococcus prophylactic. In the author's experience, the discharge was controlled in 61.36 per cent. of the chronic cases in from

one to six days' treatment. In 33.74 per cent. the character of the discharge was changed to a mucoid one, while in 4.9 per cent. of the cases it was without effect for twelve treatments. Two negative smears were reported in 60 per cent. of the chronic cases five days after discontinuance of treatment, i. e., no gram-negative diplococci were demonstrated. In 20 per cent. the discharge stopped but did not affect the organisms. In the other 20 per cent. of the cases the result varied, i. e., the first smear was reported negative and the second positive, or vice versa. Severe burning was complained of in 39.9 per cent. of all the cases, and was most intense in the acute cases.

Minnesota Medicine, Minneapolis

April 20, 1920, 3, No. 4

Rational Treatment of Carcinoma of Uterus. J. W. Little, Minneapolis.—p. 159.
Results of Cholecystectomy. W. A. Dennis, St. Paul.—p. 163.
*Palliative Treatment Versus Radical Treatment of Trifacial Neuralgia. A. W. Adson, Rochester.—p. 169.
*Protein Sensitization in Asthma and Hay Fever. A. H. Sanford, Rochester.—p. 174.
Protein Sensitization in Bronchial Asthma and Hay Fever. C. N. Hensel, St. Paul.—p. 180.
Colloidal Gold and Other Cerebrospinal Fluid Reactions. C. E. Nixon, Minneapolis.—p. 186.
Colloidal Gold Reactions. M. Warwick, Minneapolis.—p. 188.
Prevention and Control of Venereal Diseases. S. Lull, Waubay, S. D.—p. 191.
Injuries to Skull. O. N. Meland, Warren, Minn.—p. 195.

Palliative Treatment of Trifacial Neuralgia.—Adson reports on 805 alcohol injections in 318 patients in addition to 203 other palliative operations, making a total of 1,008 palliative surgical treatments. Ninety patients have had the radical operation with complete relief, the remaining 228 are still seeking relief by temporary methods. Having personally divided the posterior root in seventy-four cases of trifacial neuralga, he is convinced that the radical operation is indicated in operable cases after one or two alcohol injections, in preference to continuing the palliative procedures indefinitely.

Protein Sensitization in Asthma and Hay-Fever.—A preliminary report is made by Sanford on the work done thus far on protein sensitization in asthma and hay-fever in the Mayo Clinic. Tests have been made on more than 800 patients during the past two years. Of this number, more than 500 were entirely negative in their skin reaction. The reactions of about 100 more were doubtful. The remaining patients, more than 200 in number, had definite skin reactions. Twenty-eight persons reacted positively to some of the animal emanations. The largest number of reactions was to horse dander. One hundred persons reacted to one or several of the proteins derived from foods. The greatest number of reactions was to egg white; eleven patients in all were sensitive to this protein. Twenty-five patients had marked positive reactions to grain. Twenty-eight patients were sensitive to vegetable proteins. This group, on the whole, is negative. Fruits, apparently, have little to do with asthma. In several instances banana gave marked reactions. Twice it was known to be a definite factor in producing asthma. In 365 tests to *Staphylococcus pyogenes-aureus* and *Staphylococcus albus* there was not a single reaction. Of the patients sensitive to ragweed and other fall pollens, fifty-two were definitely positive, thirty-six with hay-fever and sixteen with both hay-fever and asthma. The discussion of the treatment is reserved for a later report.

Oklahoma State Medical Ass'n Journal, Muskogee

February, 1920, 13, No. 2

*Sporotrichosis. E. S. Lane, Oklahoma City.—p. 41.
Relation of Focal Infections to Skin Diseases. C. H. Ball, Tulsa.—p. 49.
Obstructions to Outlet of Stomach. E. N. McKee, Enid.—p. 59.
Operative and Diagnostic Cystoscopy. B. Lewis, St. Louis.—p. 63.
Importance of Urologic Examination in Cases of Obscure Abdominal Pain and in Bladder and Kidney Infections. J. H. Sanford, Muskogee.—p. 73.

Sporotrichosis.—Lane reports five cases and details the clinical history of this affection. In each case the patient had had contact with a domestic animal. The patient made a rapid recovery in about fifteen days under the treatment given, which consisted of tincture of iodin and roentgen ray locally, with potassium iodid.

Texas State Journal of Medicine, Fort Worth

April, 1920, 15, No. 12

Congenital Defects and Heredity in Relation to Eye: Special Reference to Retinitis Pigmentosa. L. H. Lanier, Texarkana.—p. 424.
Technic in Cataract Extraction. L. K. Beck, San Antonio.—p. 426.
Senile Cataract Extraction. W. Ralston, Houston.—p. 427.
Direct Vision in Removing Foreign Bodies from Eye and Lung; Transfusion in Hemophilia. D. L. Bettison, Dallas.—p. 429.
Gas Anesthesia. W. W. Boyne, Fort Worth.—p. 431.
Intravenous Solutions: Life-Saving Measure in Infancy and Childhood. H. L. Moore, Dallas.—p. 432.
Woman: Ideal Maker of Nations. E. H. Cary, Dallas.—p. 433.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Indian Journal of Medical Research, Calcutta

Special Number, 1919

Research Work on Cholera. L. Rogers.—p. 1.
"The Next War": Man versus Insects. W. G. Liston.—p. 18.
Results of a Mosquito Survey of Indore City. M. O. T. Iyengar.—p. 26.
*Hydrocyanic Acid Gas as an Insecticide. W. G. Liston.—p. 40.
Beriberi. P. Hehir.—p. 44.
*Anti-Beriberi Vitamin Content and Antiscorbutic Property of Sun-Dried Vegetables. J. A. Shorten and C. Roy.—p. 60.
*Scurvy. P. Hehir.—p. 79.
*Quinin in Treatment of Malaria. J. W. Cornwall.—p. 83.
Treatment of Malaria by Quinin. P. Hehir.—p. 89.
*Results of Treatment at Malarial Convalescent Depot, Dagshai. D. F. Curjel.—p. 101.
Quinin. R. S. Kennedy.—p. 105.
*Simple Method for Detecting Fecal Carriers. W. G. Liston and S. N. Gore.—p. 107.
Enteric Carriers. J. A. Cruickshank and H. M. Lafrenais.—p. 124.
Amebic Dysentery Carrier. W. MacAdam.—p. 135.
Carrier Problem. J. Cunningham.—p. 142.
Rat Problem of India. J. C. G. Kinhardt.—p. 145.
Rat and Plague Conditions in Hutted Camps. J. Taylor.—p. 173.
Rat Problem. W. A. Justice.—p. 179.
Meteorologic Conditions in Mesopotamia Affecting Occurrence of Heatstroke. J. Taylor.—p. 181.
Diagnosis on a Large Scale in Hook Worm Infection. C. Lane.—p. 186.
Is Human Bilharziosis Likely to Spread in India? M. B. Soparkar.—p. 207.
Existence of Distoma Disease in India. N. F. Surveyor.—p. 214.
Prophylaxis of Dracontiasis. D. A. Turkhud.—p. 217.
Small Outbreak of Lobar Pneumonia in Baghdad Due to a Bacillus of Gaertner-Paratyphoid Group. W. MacAdam.—p. 226.
Remarks on Quinin Treatment of Malaria, etc. P. Hehir.—p. 233.
Sodium Morrhuate in Treatment of Tuberculosis. L. Rogers.—p. 236.

Hydrocyanic Acid Gas as Insecticide.—The quantity of chemicals required for 100 cubic feet of space to be treated is one-half ounce each of potassium cyanid and strong sulphuric acid. It is important to note that the potassium cyanid is pure. Under satisfactory conditions, where there is very little loss of gas by leakage from the room and when the room is empty, this will give approximately 110 parts of hydrocyanic acid per hundred thousand parts by volume of mixed gases in the room.

Antiscorbutic Property of Sun Dried Vegetables.—The experiments reported on by Shorten and Roy that three varieties of sun dried vegetables, viz., carrots, onions and cabbages, retain to some extent their antiscorbutic properties; while spinach is entirely lacking in this virtue.

Scurvy.—Hehir reports on the epidemic of scurvy among British troops and natives in Mesopotamia. He also calls attention to the fact that the Lister Institute has been investigating the etiology of scurvy carefully, and has found that germinating grains and pulses of various sorts contained antiscorbutic vitamins after the grain has sprouted.

Quinin in Malaria.—The whole subject of quinin and malaria, in Cornwall's opinion, requires and merits a properly devised and coordinated scientific enquiry, in order to determine whether quinin in harmless doses can act as a reliable prophylactic; if it cannot, then its use should cease; whether a primary attack of malaria due either to *Plasmodium vivax* or to *P. malaria* or to *P. falciparum* can be cured by doses of quinin which, compared with the harmful influence of the parasite, are relatively harmless to the patient; whether any useful purpose is served by dosing a patient with quinin between his relapses; whether any other chemical combination can be found which is able to destroy the parasites of

malaria without at the same time exerting a seriously harmful effect on tissue cells.

Quinin in Malaria Re'apse.—Curjel is firmly convinced that some form of quinin appears to be the drug indicated for the treatment of malarial relapse. The exact mode of administration is immaterial, nor does there seem to be any advantage in excessive doses.

Detecting Fecal Carriers.—The method described by Liston and Gore is one which can be used by the general practitioner, provided he secures some ordinary agar slopes, a graduated pipet marked in fiftieths of a cubic centimeter, a feces emulsion tube, two platinum loops, some high titre agglutinating serum and a glass plate with hollows or some watch glasses. A little sterile water or physiologic sodium chlorid solution will also be required, together with an alcohol lamp, some slides, stains and a microscope. The details of the method are given.

Journal of Laryngology, Rhinology and Otology, London

April, 1920, **35**, No. 4

Latent Sphenoidal Sinusitis in Children with Recurrent Adenoids and Appendicitis. P. Watson-Williams.—p. 97.
*Thirteen Cases of Aural Tuberculosis in Infants. D. Guthrie.—p. 99.
*Method of Suturing Pillars of Fauces. T. Cuthrie.—p. 102.
Origin of Quick Phasis of Vestibular Nystagmus. A. Rejo.—p. 103.

Tuberculous Otitis Media.—Among seventy-nine cases of chronic suppurative otitis media in which the causal condition was noted, Guthrie found thirteen cases of tuberculous origin. The mode of feeding was noted in eleven cases and in nine of these unboiled milk was used. Hence, it appears probable that the tuberculous infection is primarily implanted in the nasopharynx, whence it is conveyed to the middle ear by way of the eustachian tube.

Suturing Pillars of Fauces.—Guthrie passes a curved slot-eyed needle from behind forward through the posterior pillar, then, if thought necessary, through a thin layer of the tissue lining the tonsil fossa, and finally through the anterior pillar. The suture having been engaged in the slot of the needle, the latter is withdrawn and the suture disengaged and tied.

Lancet, London

April 3, 1920, **1**, No. 5040

*Diagnosis of Disease of Pancreas. A. E. Garrod.—p. 749.
Radiology in Chronic Intestinal Stasis. A. C. Jordan.—p. 756.
*Electrical Stimulation of Nerves at Operation. N. H. M. Burke. —p. 761.
*Fatal Anaphylaxis Following Prophylactic Administration of Anti-tetanic Serum. F. B. Gurd and E. Emrys-Roberts.—p. 763.
Oxygen and Air Replacement of Fluid in Pleural Cavity. F. G. Chandler.—p. 764.
*Hydropathic Treatment of Malaria. T. Zangger.—p. 766.
*A Large Ureteral Calculus Associated with Pyonephrosis. R. L. Ley. —p. 767.
Rupture of Aortic Aneurysm into Pulmonary Artery. W. E. Peacock. —p. 767.

Diagnosis of Pancreas Disease.—Garrod cites cases to emphasize that in the diagnosis of disease of the pancreas practically every sign, symptom, or test may fail and that the application of physiologic discovery at the bedside needs the cooperation of the laboratory and the ward.

Electrical Stimulation of Nerves at Operation.—In order to avoid needless operation, Burke says it must be remembered that conductivity is conclusive evidence of physiologic continuity of nerve fibers, as also is excitability below the lesion. Improvement in conductivity or in peripheral excitability following immediately after neurolysis is suggestive of only slight compression and possibly chemical nerve-block. Absence of conductivity and of excitability, even after neurolysis, is not conclusive evidence of division, but is probably an indication of fairly severe nerve disturbance.

Anaphylaxis Caused by Antitetanic Serum.—The case report by Gurd and Roberts is that of a healthy man who collapsed following the hypodermic administration of a relatively small dose—5 c.c.—during life identical with those which occur in anaphylactic shock in the dog, and with necropsy findings typical of those which are found in the guinea-pig.

Hydropathic Treatment of Malaria.—Eighteen soldiers had had lengthy consecutive courses of quinin treatment for chronic malaria without results. Zangger discontinued the quinin and gave the patients tepid "half baths." The arms, legs, and chest of a patient lying in a bath half filled with tepid water (82 F.) are rubbed for five minutes in the water then dried, and the patient is put to bed. Ambulant cases can rest for an hour and then return home. These baths were repeated three times a week for from three to four weeks, the average of baths per patient being eight. The malaria came to an abrupt termination within 10 days. During five weeks only five attacks were noted, and all the eighteen cases except one, who had one single slight feverish attack, were free from fever for the year during which they remained under observation.

Large Ureteral Calculus.—The stone in Ley's case was 3 inches in length and 4 inches in circumference. It weighed 2 ounces, 2 drams.

Archives des Mal. du Cœur, etc., Paris

December, 1919, **12**, No. 12

*The Phlebogram in Complete Arrhythmia and in Tricuspid Insufficiency. P. Schrumpf (Geneva).—p. 529.
*Mechanism of Double Crural Sound. C. Pezzi (Pavia).—p. 547.

The Phlebogram in Complete Arrhythmia and in Tricuspid Insufficiency. — Sphygmographic and electrocardiographic researches combined have led Schrumpf to the conclusion that serious cases of insufficiency of the tricuspid valve are nearly always accompanied by complete arrhythmia; most cases of complete arrhythmia, however, are independent of any insufficiency of the tricuspid valve.

The Mechanism of the Double Crural Sound in Aortic Insufficiency.—On the basis of his own independent investigations, Pezzi opposes the view advanced by Traube in 1867 that the double crural sound is a characteristic symptom of aortic insufficiency, and corroborates the opinion of Dagnini that it is a phenomenon of mixed, that is to say, of arterial and venous origin. Pezzi has never found it present in aortic insufficiency that was perfectly compensated. He has observed it only when there was more or less manifest myocardiac insufficiency.

Journal de Médecine de Bordeaux

March 25, 1920, **91**, No. 6

*Hydatid Cysts of the Lung. Creyx.—p. 139.
Brain Monstrosities. G. Jeanneney.—p. 147. Cont'd.
Carbuncle with General Staphylococcus Infection. R. Darget.—p. 152.
Typhoid Bacillus in Fixation Abscess in Typhoid. Damade.—p. 153.
*Chromic Acid in Fusospirillar Infections. W. Dubreuilh.—p. 153.

Clinical Forms of Hydatid Cysts of the Lung.—Creyx remarks that there is scarcely any physical or functional syndrome of the lung that these cysts may not realize. He therefore thinks that a division into differentiated semeiologic types would have value for the physician who is called on to give his opinion in a case of pulmonary echinococcosis that he has had an opportunity to observe only a limited time: namely, the latent type, the pseudotuberculous type, the pseudopleuritic type, the type simulating intrathoracic tumor, and the suppurative type. Creyx gives six case reports in illustration of these various types. This classification would have the effect of inviting the aid of roentgenologic, serologic and hematologic methods in solving the doubtful problems, and thus the clinician would be put on the right track leading up to appropriate and successful therapy.

Chromic Acid in the Treatment of Vincent's Angina and Other Fusospirillar Infections.—Dubreuilh recommends in Vincent's angina and in analogous infections a saturated solution of chromic acid, applied with a firmly twisted cotton swab. The oxidizing power of the chromic acid is such that if the solution is fresh and one does not use the swab at once after moistening it in the solution, it will begin to fume and the cotton will be found to be carbonized. The swab should therefore be barely moistened and not allowed to accumulate superfluous liquid. The ulcerations are rubbed rapidly and vigorously with the swab so as to detach

mechanically the false membranes and to bring the solution in direct contact with the ulcerated surface. The patient should also be allowed to rinse out his mouth at once, but should be cautioned not to swallow any of the saliva mixed with the acid. Occasionally it may be necessary to make a second application about the fourth or fifth day.

Lyon Médical

March 10, 1920, 129, No. 5

Emergency Treatment of Cranial Traumatism. P. Santy.—p. 201.

Paris Médical

March 13, 1920, 10, No. 11

*Renal Syndrome with Asystolia. O. Josué and Parturier.—p. 221.
*Trophedema in the Insane. E. Coulonjou and others.—p. 230.

Disturbances in Kidney Functioning with Asystolia.—Josué and Parturier have published a number of articles on what they call the renal syndromes of asystolia, and here explain the mechanism by which oliguria of cardiac origin entails uremia and edema even when the kidneys are sound. The elimination of waste through the kidneys is defective because there is not enough water pumped into the kidneys to rinse out the waste, and the water stagnates and accumulates in the tissues. The symptoms may indicate uremia from serious kidney disease but under digitalis the whole train of symptoms subsides. The Ambard ureosecretory index may be misleading in oliguria from asystolia, as also other tests of kidney functioning. The heart action should be brought back to approximate clinically normal and the oliguria be corrected by other means before the findings of these tests can be accepted as reliable. Albuminuria may be merely the consequence of the venous stasis, and it may disappear as this is corrected by the *polyurie libératrice*. The true figure representing the arterial pressure cannot be estimated during periods of asystolia and oliguria. There may even be asystolic hypertension, paradoxical as this seems. In asystolia, digitalis is always indicated, whatever the condition of the kidneys. But its task should be facilitated by getting rid of the water accumulated by the venous stasis; venesection and a drastic purge are the indispensable prelude to the digitalis. Nothing but milk should be allowed; with extreme oliguria, nothing but water; the amount of fluids should not be over 1.5 liter, and 100 or 150 gm. of lactose can be added. Small doses of digitalis are notoriously inadequate in the renal syndromes of asystolia, and the drug should be kept up until the energy of the heart seems to be permanently reestablished; one of his patients has taken a small dose daily for years. It is not necessary to restrict salt after the heart action has been restored to normal; there is no danger of return of the dropsy in these cases. The asystolia may be latent but still may imprint its stamp on the symptoms from lungs and liver as well as from the kidneys.

Trophedema in the Insane.—The trophedema in the two cases reported accompanied chronic mania; this seems to confirm the endocrine-sympathetic nature of the trophedema. It is possible that the factors responsible for the latter may be involved also in the causation of the mental disease.

Policlinico, Rome

Feb. 23, 1920, 27, No. 8

*The Blood Platelets. R. Marchesini.—p. 227.
Epidemic Encephalitis. Two Fulminating Cases. E. Beretta.—p. 230; C. Castelli.—p. 231.
No Outdoor Night Work in Malarial Zones. G. Conforti.—p. 234.

The Blood Platelets.—Marchesini has continued his extensive research on the blood platelets, and here reports that the erythrocytes can all be classed in three groups, the stable, the partly stable and unstable, and that the early disintegration of the latter leads to formation of blood platelets out of their débris. The leukocytes serve merely as gathering centers for the débris of the unstable erythrocytes. This unstable group take stains instantaneously. The process of formation of platelets can be watched most instructively on the large erythrocytes of frogs and fowls. The unstable erythrocytes disintegrate more quickly under the influence of an aqueous extract of leeches.

Riforma Medica, Naples

Dec. 13, 1919, 35, No. 50

*Hepatopexy. R. Mosti.—p. 1090.
Relations Between Influenza and Other Diseases. A. Bertolini.—p. 1100.
Fulguration for Cancroid of the Face. G. Paoletti.—p. 1103.

Operative Correction of Ptosis of the Liver.—Mosti devotes ten pages to a summary of the different methods in vogue for hepatopexy for total downward displacement of the liver, and comments on the disadvantages of all except the Santucci method. He reports the seventh case in which the latter has been applied, and extols the favorable conditions and permanent correction of the hepatoptosis without the slightest injury to the liver. A long curving incision is made from the sternal margin of the rectus abdominis sweeping down to four fingerbreadths below the costal arch and then up a little to the axillary line. The skin-muscle flap is turned back on the chest, and the peritoneum is incised just below the fold of the flap. The liver is then moved up into place and held there while the free lip of the incision in the peritoneum is rolled up on itself to make a kind of cord; this is encircled by three loops of stout silk about 3 or 4 cm. apart. Each silk thread is then passed through the right lobe of the liver, from the bottom to the top, about 2 or 3 cm. from the sharp edge, exactly to correspond to the location of the threads encircling the rolled-up cord of peritoneum. These threads are then drawn up and tied over the costal arch. The liver is thus supported from beneath and suspended from above, without any direct traction on the liver itself. The simple technic is shown in three illustrations. Mosti has found about thirty operative cases of total hepatoptosis on record, with nearly as many different technics as there were cases. He discusses further the clinical picture with sagging liver. In the case reported, the symptoms for a long time were merely from the stomach, but as the ptosis became more pronounced there was continuous and spasmodic pain, probably from traction of the heavy organ on its ligaments and from pressure on the solar plexus.

Rivista Critica di Clinica Medica, Florence

Jan. 5, 1920, 21, No. 1

*Tactile Vocal Fremitus in Croupous Pneumonia. A. Gallotti.—p. 1.
*Uremia and Ureic Diuresis. Fornaseri.—p. 4.

Jan. 15, 1920, 21, No. 2

Arsphenamin in Chorea. G. Salvetti.—p. 13.

Vocal Fremitus in Croupous Pneumonia.—Gallotti found the tactile vocal fremitus in fifteen patients with croupous pneumonia diminished during the second stage in 48 per cent. and intense in 17 per cent. In the first and third phases of the disease it was generally exaggerated. It is of autochthonous origin, that is, it occurs without the influence of the chest wall.

Uremia.—Fornaseri reviews the uremia with various acute and chronic diseases, and emphasizes that in treatment the diet should be poor in nitrogen and without salt. In the acute form, water, teas, gruels, stewed fruits and a small amount of milk are advisable. On water alone, the azotemia may increase, from autophagia. On a milk diet, also, the azotemia always notably increases. In chronic cases, cereals, vegetables, fruit and spaghetti may be allowed but only very little milk and meat. To promote elimination of the urea, measures to stimulate diuresis may include subcutaneous injection of artificial serum with 47 per cent. glucose or 0.5 per cent. lactose, injecting 10 gm. of the serum per kilogram of weight when the blood pressure is high, and 15 gm. when it is unduly low. Revulsives to the kidney region, purges and venesection are also useful.

Archivos Españoles de Pediatría, Madrid

January, 1920, 4, No. 1

*Intradermal Tuberculin Treatment of Pulmonary Tuberculosis in Children. J. Garcia del Diestro and B. Cordero.—p. 5.
*Polycystic Disease of Omentum. V. Juaristi and D. Arraiza.—p. 20.

Intradermal Tuberculin Treatment of Pulmonary Tuberculosis in Children.—Garcia and Cordero relate their expe-

riences with Mantoux' intradermal technic applied in systematic tuberculin treatment of children, in this instalment of their article, analyzing the cases in which no benefit was realized. These cases in which the method failed, proved useful guides for selecting other cases for the method and for the proper doses until highly favorable results could finally be counted on. To begin with, they state that dispensary treatment by subcutaneous injection of tuberculin has too many drawbacks and dangers, but the intradermal technic is free from these to a large extent, while the response to the intradermal injection is an instructive index of the individual tolerance at the moment, often rendering careful analysis of the temperature, weight, etc., unnecessary. The intradermal technic allows a tentative course of tuberculin treatment without danger for the patient, even when it proves ineffectual.

Cystic Disease of the Omentum.—The ruddy boy of 4 seemed healthy except for the enormous distention of the abdomen. A laparotomy revealed a mass of cysts, mostly united, and requiring the removal of the entire gastrocolic omentum. The conditions in the resected mass testified to the fetal origin of the cysts, some inflammation of the omentum during intra-uterine life having prevented the normal fusion of the layers, so that the inflammatory exudation held them apart and entailed the cyst production. Some of the cysts were as large as a fist, others only the size of a nut, and nearly all were joined together. Neither puncture nor the laboratory would have thrown any light on this case. Juaristi and Arraiza remark in conclusion, saying that if physicians would examine the peritoneum for themselves instead of trusting blindly to what is written in books—which copy one from the other—it would be better for all concerned.

Brazil-Medico, Rio de Janeiro

Feb. 7, 1920, **34**, No. 6

*Vomica with Interlobar Pleurisy. Cardoso Fonte.—p. 81.
*Tonsillectomy. C. Rohr.—p. 84.
Examination of Spinal Fluid in Syphilis. G. Moura Costa.—p. 87.

Feb. 14, 1920, **34**, No. 7

Chronic Delirium with Hallucinations. H. Roxo.—p. 97.
Recurring Hemoptysis after Influenza. O. Clark.—p. 100.
Definition of Cenesthesia and Kinesthesia. Vieira de Moraes.—p. 101.

Vomica with Pleurisy.—Cardoso has encountered two cases in which encysted pleurisy led to a vomica, the patient suddenly expelling from the lungs a mass of fetid pus and blood to a total of about 200 gm. This occurred at the eleventh day of the disease, during the night, in one of the cases. This patient was a woman of 40 and there had been scarcely any coughing before. Recurring hemoptysis and purulent expectoration kept up afterward for nearly three months, but recovery was complete by the fourth month. There was nothing to suggest a pulmonary process or syphilis, and the physical signs indicated interlobar pleurisy as well as the intense dyspnea, the hemoptysis and the intensely fetid breath and sputum. In another case the sudden expulsion of fetid pus and subsidence of symptoms was followed a week later by another vomica of about equal intensity soon followed by recovery; there must have been two sacs of pus in this case, he thinks. In still another case subcontinuous fever, cough and fine râles in the right lung suggested tuberculosis, but by the end of a month the extreme fetidity of the breath impelled closer examination, and a zone of dulness was found in the middle of the right half of the chest, at the back, a suspended area of dulness. This pointed to interlobar pleurisy, and puncture followed by thoracotomy led to prompt improvement of the symptoms from the pleura. If benefit is not soon apparent after the vomica, surgical measures should be considered, but the patient first mentioned recovered under symptomatic treatment alone, ergot, emetin, calcium chlorid, etc., with balsamics to promote expectoration. The hemoptyses were often alarming, but the good general condition and the final complete recovery justified the exclusive medical treatment.

Tonsillectomy.—Rohr gives an illustrated description of the technic and after-care, with special reference to the Sluder method.

Gaceta Médica de México, Mexico

January, 1920, **1**, No. 4

*Operation on Nerves. M. Toussaint.—p. 3.
Treatment of Keratoconus. E. F. Montaño.—p. 7.
Influenza in the City of Mexico. J. León Martinez.—p. 11.
*Treatment of Neurosyphilis. A. Brioso Vasconcelos.—p. 15.

Operations on Ulnar and Median Nerves.—Toussaint describes the preferable technic for operations on these nerves as he applied it in a man of 30 whose right arm had been paralyzed since a gunshot wound eight months before. The operation included neurolysis, suture, and isolation of the sutured segment. The man is said to have now, two years later, complete functional use of his arm. The segments were isolated with two free flaps of adipose tissue, and Toussaint expatiates on the advantages of adipose tissue for this purpose and for arresting hemorrhage in operations on the liver, spleen, etc.

Treatment of Neurosyphilis.—Vasconcelos reviews the literature on this subject, and reports seven cases from his own practice in which he gave intraspinal treatment. He urges this direct treatment of syphilitic disease of the central nervous system whenever the spinal fluid gives a positive Wassermann, Pandy, Nonne, Noguchi or Lange reaction, and still more imperatively when several of these reactions are associated, as the patient is then a candidate for tabes or general paresis.

Repertorio de Medicina y Cirugía, Bogota

February, 1920, **11**, No. 5

*Signs of Collective Degeneration in Colombia and Countries Similarly Situated. Miguel Jiménez López.—p. 227.
Hygiene of Milk. G. Arbeláez R.—p. 264. Conc'n.

Collective Degeneration of the Human Race in Colombia.—Jiménez states that Colombia is one of the three countries of the world with the lowest number of marriages (4 per thousand inhabitants), although the number of births was 31 per thousand in 1915. The mortality was 20.9 per thousand. The life expectancy is below the average, he says, and men at 30 have passed their prime, corresponding to the age of 45 in the temperate zones. His remedy is—in addition to hygiene and preventive medicine—to invite immigration on a large scale from peoples with characteristics opposite to those of the Latin races. He specifies in particular Switzerland, Belgium, Holland, Wurtemberg and the Tyrol as the countries where it would be best to seek immigrants.

Semana Médica, Buenos Aires

Dec. 18, 1919, **26**, No. 51

*Latent Tuberculosis in Young Children. J. P. Garrahan.—p. 771.
*Fibromatous Degeneration of the Uterus. C. A. Castaño.—p. 781.
Vaccine Treatment and Prophylaxis of Tuberculosis. F. Gómez Alvarez.—p. 783.
*Amebiasis of the Lung. R. A. Bullrich.—p. 793.
Regional Anesthesia for Operations on the Uterus. E. A. Fox.—p. 797.
Mixed Infection in Tuberculosis. F. Gómez Alvarez.—p. 798.

Dec. 25, 1919, **26**, No. 52

Uni-Ovular Twins. F. A. Deluca and V. Widakowich.—p. 807.
Case of Total Inversion of Viscera. J. Bacigalupo.—p. 812.
The Royer Atomic Theory. Clemence Royer.—p. 818.
Present Status of Local Anesthesia. J. M. Jorge.—p. 829.
Artificial Eyelids and Eye. R. Gil.—p. 837.
Etiologic Factors in Laennec's Cirrhosis. F. Fernández Martinez.—p. 840.

Masked Tuberculosis in Children.—Garrahan relates that a tuberculin test, often applied up to four times, to 1,214 children at Buenos Aires, between 2 and 16, revealed that over 75 per cent. of the older children, between 14 and 16, were probably infected with tubercle bacilli. The children were apparently healthy and all of the poorer classes. Those brought up in asylums or other institutions showed 20 per per cent. less tuberculous than those brought up in families. In infants with tuberculosis, the disease was never found entirely latent. Garrahan's experience thus differs from others' in this respect.

Origin and Treatment of Fibrous Degeneration of the Uterus.—Castaño presents an array of evidence to sustain the assumption that congestion in the uterus, of endocrine or infectious origin, is the initial stage of what progresses

to sclerosis, fibromatosis, parenchymatous metritis, etc.—all these are merely different stages of the one process. It begins with congestion and eventuates in sclerosis. This conception opens new horizons for treatment of all the eight typical uterine affections which hitherto have been regarded as separate entities. Local measures to reduce congestion, radiotherapy and kinesitherapy, with ovarian, thyroid or other glandular extracts to restore the endocrine balance, are the proper treatment for all stages and will benefit all but irreparable lesions. Treatment for syphilis may also be indicated.

Pulmonary Amebiasis.—Bullrich summarizes three other cases on record of nonsuppurating amebiasis in the lung, and describes in detail a case in his own service. The man of 43 had been clinically cured of dysentery with emetin six years before. After nearly three years, there had been a tendency to diarrhea. Then came sudden pain in the shoulder and it progressed, with coughing and sensations of something tearing loose in the lung, with bloody sputum afterward. There was also pain in the lung and liver and some fever, and the stools became dysenteric but no amebas could be found, no tubercle bacilli, and the Wassermann test was negative. Roentgenoscopy showed the apexes clear, but the right lung below cast a shadow, and the diaphragm was immovable. Under emetin, the temperature, stools, lung findings and general condition promptly returned to normal. Bullrich remarks in conclusion that the amebas probably invade the liver first, through the portal system. If they pass beyond the barrier of the liver, the lung is the next barrier they encounter.

Mitteilungen a. d. med. Fak. d. kais. Univ., Tokyo

June 14, 1919, **21**, No. 3. German Edition

*Action of Volatile Substances on Blood Pressure. S. Yamada.—p. 355.
*Antitrypsin in the Blood. S. Tachigara.—p. 437.
*Cord Anomaly in Knee Joint. T. Mayeda.—p. 507.

Action of Volatile Substances on Blood Pressure.—Yamada experimented, mainly on rabbits, with fifteen strong smelling and volatile fluids, including benzine and chloroform, and with fifteen essential oils, two perfumes, and with musk, camphor, phenol and tobacco smoke. They can all be classified according to the effect on the trigeminal or the olfactory nerve or on both combined. The reflex action from their effect in the nose raises the blood pressure but in the trachea depresses it. Simple mechanical or electric stimuli applied to the nasal mucosa seem to have a similar blood pressure-raising action, he relates.

Trypsin and Antitrypsin in the Blood.—Tachigara has been applying quantitative tests for antitrypsin in the blood in the healthy and in a number of pathologic conditions as he describes in detail, and reviews a bibliography of seventy-six titles on the subject.

Cord Anomaly in the Knee Joint.—Mayeda describes what he calls chordae cavi articularis genu and explains as an embryonal malformation of comparatively common occurrence. It is usually overlooked on opening the joint as no one examines the inner wall of the normal knee joint, and the cord bridging the cavity is not seen unless carefully sought for. Opposite conditions prevail in respect to the heart cavity, so that abnormal cords in the heart are readily recognized.

Berliner klinische Wochenschrift, Berlin

Dec. 22, 1919, **56**, No. 51

Clinical Observations on Abdominal Pressure. E. Melchior.—p. 1201.
Hypertonia as a Constitutional Anomaly. F. Munk.—p. 1205.
Pathology of the Sympathetic System in Influenza. E. Riese.—p. 1208.
*Acute Dermatomyositis. Ridder.—p. 1211.
Pharmacology of Digitalis Leaves. G. Joachimoglu.—p. 1212.

Acute Dermatomyositis Simulating Trichinosis.—Ridder calls attention to the diagnostic value of the absence of hyperleukocytosis and of eosinophilia in a case of dermatomyositis, as this was the first definite indication that the case in hand was not trichinosis, which it closely simulated. That the spleen was not enlarged was also atypical. A diagnosis of dermatomyositis once established, treatment consisted of profuse diaphoresis induced by light baths and hot air; inunction of the skin, and administration of stomachics and sedatives, with quinin in small doses. Ridder adds that an exact account of the anatomic findings and the course of the disease is to be given soon in a thesis by Behrendt.

Deutsches Archiv für klinische Medizin, Leipzig

Aug. 15, 1919, **130**, No. 1-2

*Auricle Pulse and Venous Pulse in Man. H. Straub.—p. 1.
Morphologic Examination of the Blood in Diagnosis of Tertian Malaria. V. Schilling.—p. 21; Idem. C. Klieneberger.—p. 131.
Friedmann's Treatment of Pulmonary Tuberculosis. P. Deuel.—p. 27.
*Extrarenal Elimination of Cardiac Edema. A. Heineke.—p. 60.
*Heart Block. A. Eckstein.—p. 95.
*Aleukemic Myelosis. E. Keuper.—p. 118.
*Origin of Hemorrhagic Diatheses. R. Klinger.—p. 127.

Pulsation in the Auricle in Relation to the Venous Pulse.—Straub has been making a systematic study of this subject in a young officer left with a large defect in the chest wall after resection of the sternal ends of several of the right ribs for a suppurating gunshot wound. The bullet had lodged in the wall of the superior vena cava near its entrance in the right auricle. The defect was covered with skin and the action of the heart did not seem to be impaired, but the pulsation of the auricle was distinctly visible and could be compared with the venous pulse, throwing light on the mechanism and interpretation of the latter, as Straub explains.

Extrarenal Elimination of Cardiac Edema.—Heineke tabulates the findings in a number of extremely severe cases of edema from heart disease to demonstrate that instead of depending on the diuresis figures in estimation of the course of the case, the scales should be consulted. The patient's weight is the main criterion of the success of the efforts to reduce the edema. He does not agree with those who maintain that digitalis and strophanthin given for the heart disease are liable to induce contraction of the vessels in the kidneys, thus closing the outlet for the fluid through the kidneys. There may be other causes for the lack of effectual diuresis. The mobilization of the edema fluid by the action of the heart tonic on the circulation, and the consecutive hydremia, promote both the renal and the extrarenal elimination of the water. It is more difficult, however, for the circulation through the complicated system of glomeruli and tubuli to be restored to approximate normal than the circulation through the vessels in the skin. Hence the vessels in the skin may get to work sooner and act more efficiently than the vessels in the kidneys; there is no need to assume any constriction of the renal vessels to explain this delay in their functioning. In the cases of which curves are given, the extreme stasis in the vessels in the kidney was evidently exceptionally difficult to overcome. Heineke remarks in conclusion that he does not know of a single authentic instance on record of constriction of the renal vessels from the action of a heart tonic. His extensive experience, on the other hand, with cases of heart disease has convinced him that too often digitalis is given in inadequate doses and not kept up long enough and, above all, that there is too much dread of the intravenous route. He cites Meyer's successful case in which a digitalis preparation was given daily for a year.

Heart Block.—Eckstein has continued his research on the frog heart and in the clinic, and here states that the results have confirmed that the width of the impulse-conducting tract between the auricle and the ventricle does not modify the transmission of the impulse. The so-called partial heart block is not the result of any narrowing of the tract, but is due to functional modifications of the remaining elements. The power of the impulse is dependent on the number of times in which the elements of the tract can repeat a given process in a given unit of time, that is, the length of the refractory phase. This may differ in different parts of the heart and in the same part at different times. When two parts with a different length of refractory phase meet, irregularity of rhythm is inevitable. Hence allorhythmia is by no means always traceable to the impulse-conducting system, and its cause may be sought elsewhere in the heart. The cause may not be anatomic, as every kind of irregularity can be

induced by purely functional disturbances. The injurious influence causing the functional disturbance may reach the heart through the blood, or through the nerves, or may originate in the heart itself. The neurogenous can be distinguished by their modification under atropin. Over two pages of bibliography on disturbance in atrioventricular coordination are appended.

Aleukemic Myelosis.—Keuper reports three cases of what he calls aleukemic myelosis encountered in the course of four years. In one the condition was chronic, and the previously healthy man of 72 improved under roentgen treatment, the spleen became reduced in size and the patient has felt subjectively fairly well during the nearly three years he has been under observation. The sudden onset in the two other cases suggested an acute infection. The disease developed in the young woman immediately after marriage, beginning with intense headaches. The man of 32 had had some months before a period of lassitude, which suggested that the acute phase was the flaring up of a chronic disease. Both these cases terminated fatally in less than two months. The diagnosis long wavered between aleukemic myelocytosis and sepsis, the clinical picture resembling the latter until puncture of the spleen or bone marrow and examination of an excised lymph gland cleared up the case. Necropsy showed myeloid cells in the spleen and kidneys and leukemic infiltration in the spleen and kidneys in the woman.

Origin of Hemorrhagic Diatheses.—Klinger recalls experiments in which the blood platelets were removed from blood and the blood was then defibrinated and reinjected, but no hemorrhagic tendency was noted thereafter. He also recalls that the platelets normally do not stick together, but only acquire this property as they lose their vitality. For these and other reasons he thinks that although hemorrhagic diatheses are usually accompanied by a reduction in the numbers of blood platelets, yet there may be no causal relation between these facts. He presents evidence to sustain the assumption of chemical factors as responsible for the hemorrhagic diatheses. The spaces between the cells forming the capillaries become more permeable under the influence of chemical injury (probably mostly hydrolytic) of the cells bordering these spaces (albumin or lipoid membranes).

Deutsche medizinische Wochenschrift, Berlin

Dec. 18, 1919, 45, No. 51

Indications with Threatened Dystocia. R. T. von Jaschke.—p. 1401.
*Amount of Blood Expelled at Each Heart Beat. J. Plesch.—p. 1404.
*Lefthandedness. H. Griesbach.—p. 1408.
*Diphtheria of Umbilicus in the Newborn. M. Henkel.—p. 1411.
*Morphin Poisoning and Apparent Death. G. Joachimoglu.—p. 1413.
Friedmann Treatment of Surgical Tuberculosis. Elsner.—p. 1415.
Cont'n.
"Hygiene and Social Hygiene:" Reply. W. Hanauer.—p. 1418.
Treatment of Lupus Erythematosus. Axmann.—p. 1419.
Hospital Diet Kitchens. Lenné.—p. 1419.
History of Medicine in the Medical Curriculum. W. Haberling.—p. 1420.

Determination of the Blood-Flow at Each Heart Beat.—Plesch describes his further development of the method of determining the volume of blood discharged during the phases of the human heart cycle by the amount of oxygen given off from the arterial blood. He claims to have perfected the method so that it can be applied to any person, under the most diverse physiologic conditions, during rest and work, and also under pathologic conditions. It can also be used for the testing of pharmacologic effects. The amount of oxygen consumed by the body must first be established, which is easily done by means of a short test of respiratory metabolism. The amount of oxygen held in the blood is then determined, which, Plesch states, can be done by means of a special type of hemoglobinometer just as accurately and with as little trouble and loss of time as a clinical determination of the hemoglobin content of the blood. Then the oxygen content of the blood in the right heart must be ascertained. Analysis of the peripheral venous blood will not suffice for this. For the determination of the oxygen content of the blood of the right heart Plesch has introduced what he calls the "Sackversuch" or rubber bag test. The subject to be examined is required to breathe into and out of a rubber bag apparatus until, in accordance with the Henry-Dalton or the Boyle-Mariotte law, a tension equilibrium is established between the blood and the gas mixture in the bag. Based on an analysis of the air in the bag, a direct estimate of the oxygen content of the blood that flows from the heart through the lungs can be made. A portion of blood is saturated with alveolar air and another portion with the air contained in the bag. The difference in the oxygen content of the two samples of blood shows then the amount of oxygen per 100 c.c. given off or received by the lungs. He describes and compares with his method those devised by others for similar purposes.

Lefthandedness.—Griesbach states that owing to the fact that in lefthanded persons the speech center is located in the right hemisphere of the brain, instead of in the left as in righthanded persons, the custom of compelling them to write with the right hand, which work is for the most part associated with the speech center, causes them to struggle for years in order to transfer the speech center from the right hemisphere to the left. Lefthanded persons are not originally mentally inferior, as Stier maintains, but it is possible for them to become so through the above described attempt at a readjustment of the speech center. The result of their efforts may be that the speech center is not predominantly located on either side, which Griesbach regards as an unfortunate state of affairs, as it interferes with hemisphere differentiation during the process of its development throughout childhood and adolescence. In adults, a change from the right hand to the left, which sometimes becomes necessary through accident, is not marked by any central changes, as their unilateral hemisphere differentiation has become definitely fixed.

Diphtheria of the Umbilicus in the New-Born.—Henkel reports four cases of diphtheria of the umbilicus in the new-born, and states that this localization of the infection is not particularly rare. His experience with the condition has not been extensive but so far he has not found it a severe infection. The important thing is to recognize early the presence of diphtheria bacilli in order that mixed infection may not set in. If not recognized until late, more or less deep tissue injuries are sure to result, which renders the management of the case more difficult. When the diphtherial character of the infection is once recognized, the treatment must be entirely specific. Diphtheria antitoxin was administered in doses of from 500 to 600 units and was applied locally. In one case 4,000 units were administered in all. Powders and ointments are avoided. The infant should never be immersed in a bath until the cord has dropped off and the stump is dry. With this endemic appearance of diphtheria of the umbilicus, the cord and the umbilicus were treated daily with 96 per cent. alcohol. Other disinfectants are contraindicated as the skin of the new-born is so sensitive.

Morphin Poisoning and Apparent Death.—Joachimoglu, in discussing the case of apparent death in Berlin, an account of which appeared recently in THE JOURNAL, p. 837, expresses surprise that although the person when found in the park showed signs of life that were readily noted by laymen, the physician who examined the apparently lifeless body when brought to the hospital should have pronounced death as having ensued from morphin poisoning and should have neglected to make any attempts at resuscitation. In acute poisoning from morphin or other narcotics of the fatty series, Joachimoglu states, absence of respiratory movements, pulse and reflexes are by no means sufficient evidence of death, as was shown long ago by the animal experiments of Boehm, who chloroformed cats and waited until the manometer showed no pulse vibrations and until no heart sounds could be noted with the stethoscope, and then, at various intervals, instituted attempts at resuscitation. Cats were thus resuscitated when the heart had ceased to beat perceptibly for 7, 8, 9 and 19 minutes, and when respiratory movements had completely ceased for 10, 13, 14 and 24 minutes, respectively. As is well known, many persons apparently dead from chloroform poisoning have been resuscitated. The condition of the organism after acute poisoning may be compared to

that following drowning. In view of these facts, Joachimoglu considers it the imperative duty of the attending physician in all such cases to institute artificial breathing and to employ all other therapeutic measures (e. g., atropin in large doses) in an attempt to bring about resuscitation, and that only after long and energetic trials to restore heart and lung activity should the subject be pronounced dead.

Jan. 1, 1920, **46**, No. 1

*Artificial Sterilization of Women. G. Winter.—p. 1.
Pressure in the Venous System. W. Arnoldi.—p. 4.
Heliotherapy in Surgical Tuberculosis. F. Brüning.—p. 5.
Experimental Immunization Against Tuberculosis by Means of Tubercle Bacilli from Cold-Blooded Animals. F. Klopstock.—p. 6.
Behavior of Cerebrospinal Fluid in Experimental Anemia and Vital Staining. W. Baumann.—p. 10.
Recurrent Localized Salvarsan Exanthems. W. Schönfeld.—p. 11.
Sensitization in Roentgenotherapy. R. Leuk.—p. 12.
Precipitation Reactions in Syphilis. E. Meinicke.—p. 13.
Roentgen Picture of Pericarditis with Effusion. Paetsch.—p. 16.
Treatment of Spastic Talipes Equinus. K. Rohde.—p. 16.
Gastro-Enterostomy for Pyloric Ulcer and Stenosis. F. Ehrlich.—p. 17.

Artificial Sterilization of Women.—Winter discusses what he regards as the indications for artificial sterilization. There seems to be an increasing misuse of the operation, which should be checked. Too much attention has been paid to the technic of the operation, to the neglect of the indications therefor. The fundamental idea or justifying basis for sterilization is to ward off the aggravating influence that pregnancy has on the course of certain chronic diseases. It is justifiable only when the life or health of the patient is seriously menaced. In exophthalmic goiter, although in from 6 to 7 per cent. of the cases one can expect serious complications, sterilization is not justifiable because strumectomy during pregnancy will ward off the danger just as well. In diabetes, relapses often result during pregnancy, and clinical experience would indicate that there are some cases of intermittent diabetes that do not subside after pregnancy; in such cases sterilization is justifiable. While tetany is sometimes seriously aggravated by pregnancy and fatalities are recorded, this is so rare that it can not be taken as an indication for sterilization. Dementia praecox is the only psychiatric disease that may necessitate sterilization. In chorea gravidarum, sterilization is strongly indicated if in earlier pregnancies grave and life-endangering symptoms were manifest. In neuritis of the optic nerve sterilization should be performed if after pregnancy the disease does not respond to treatment and atrophic conditions begin to develop; otherwise later pregnancies may lead to permanent blindness. Winter opposes sterilization in hysteria and neurasthenia, which many physicians recommend and carry out on the ground that the patients have been worn out by numerous pregnancies and the ever growing cares of the household. He thinks the husband should bring the desired relief through continence exercised for a time or means to prevent conception. In tuberculosis and in heart disease, sterilization is indicated in the most severe cases, as Winter explains in detail. In some severe complications of chronic nephritis sterilization is recommended. Owing to the fact that the mortality rate from cesarean section has been reduced to 1.5 per cent. (transperitoneal) and to 2.4 per cent. (extraperitoneal), a narrow pelvis is not as strong an indication for sterilization as formerly, but may be such still. Sterilization naturally presupposes consultation between two or more physicians and the consent of both spouses.

Deutsche Zeitschrift für Chirurgie, Leipzig

August, 1919, **151**, No. 1-2

*Plastic Operations on the Skull. R. Gebhardt.—p. 1.
*Tuberculin Tests in Surgical Tuberculosis. E. Duthweiler.—p. 21.
*Ileus During Wartime. H. Reusch.—p. 36.
Diaphragmatic Hernia with Rupture of Stomach. J. Duba.—p. 60.
Paralytic Ileus from Fermentation. H. Walther.—p. 77.
Operative Correction of Obturator Luxation. A. Szenes.—p. 86.
Isolated Fracture of Coronoid Process of Ulna. F. Bähr.—p. 100.
Isolated Injury of Posterior Crucial Ligament. M. Budde.—p. 110.
*Rupture of Mesentery. J. Dubs.—p. 120.
*Chyle Cysts. V. Hoffmann.—p. 137.

Plastic Operations on the Skull.—Eight cases are described and the advantages of utilizing bone tissue from the vicinity to close the gap are emphasized.

Tuberculin Tests in Surgical Tuberculosis in Children.—Duthweiler analyzes her experience with 8 cases of tuberculous spondylitis, 3 suspects, 7 of a tuberculous process in the knee, 4 in the elbow, 3 of the hip joint and one suspect, and 6 others with tuberculous processes elsewhere. In the 28 cases in which the diagnosis was beyond question, only 6 responded with a positive reaction to the subcutaneous injection of tuberculin, and the focal reaction proved unreliable both when positive and when negative. None of the children seemed to have been injured by the skin Pirquet test done with small doses, and the response to this was constantly positive in the above 28 cases.

Ileus During Wartime.—Reusch reviews the experiences with ileus during the last five years at Würzburg and comments on its increasing prevalence of late years, the number of operative cases having increased from five in 1912 to twenty-nine in 1918.

Rupture of the Mesentery.—Dubs reports two further cases of isolated rupture of the mesentery from abdominal contusion, with fatal outcome in one case. The other patient recovered after resection of the stretch of mesentery involved and the 15 or 20 cm. segment of attached intestine. The other patient had recovered after suture of the tear in the mesentery, and seemed to be well for nine months except for occasional hematuria. Then he developed ileus, and necropsy showed circular stenosis of the stretch of intestine corresponding to the injured portion of the mesentery, and the latter had shriveled to a certain extent. Necropsy also revealed cicatricial changes in one kidney suggesting that the kidney had been ruptured at the same time.

Chyle Cysts.—Hoffmann reports a case of a large chyle cyst, and has found four others in his hospital records. He explains them as cystic lymphangiomas—tumors copnected with malformations.

Zentralblatt für Chirurgie, Leipzig

March 13, 1920, **47**, No. 11

*Contracture of Great Toe. Kleinschmidt.—p. 243.
*Regional Anesthesia for Goiter Operations. D. Kulenkampff.—p. 246.
*Wire Versus Nail Extension. K. Ansinn.—p. 249.

Operative Treatment of Contracture of the Flexor Muscle of Great Toe.—Kleinschmidt describes the causes of contractures of this nature. A frequent cause during the war was immobilization of the foot for too long a time following gunshot injuries. In peace times the contracture is not so common. The clinical picture of the condition as seen in ten different cases was as follows: The ankle joint and the other joints of the foot, if they were not directly implicated in the fracture, showed only a moderate degree of stiffness, but the first metatarsophalangeal joint was fixed in a more or less flexed position. Any attempt at dorsal flexion met with stubborn resistance. The Payr operation for this condition consists in removing the sesamoid bones from the joint capsule and correcting adhesions. In five cases their removal relieved the condition and gave rise to no functional disturbances.

Local Anesthesia and the Technic of Goiter Operations.—Kulenkampff endorses Härtel's simplified technic for regional anesthesia in operations on the neck. He and his associates have used it for more than a year in over 100 cases and have yet to note any bad results. Kulenkampff recently has still further simplified it and used this technic in about fifty of the cases. The mastoid process-clavicle line is determined and following this line (the patient's head being turned away), with the palpating finger tips along the posterior border of the sternomastoid, and pressing fairly hard, the transverse processes of the cervical spine are located. A wheal is produced on both sides of the cervical spine at the junction of the upper and middle thirds. A needle 3.5 cm. long is inserted at one of these points and pushed directly downward into the tissues, thus coming in contact at a depth of from 1 to 2 cm. with the transverse process of the third or fourth cervical vertebra. The operator then cautiously goes on past the anterior border of the transverse process and for 0.5 or 1 cm. deeper. If no blood flows out of the needle, the syringe is attached and several drops

of the anesthetic solution are injected; the syringe is then removed and he waits to see whether a clear fluid will flow out of the needle. Often three or four trial injections are necessary before a clear fluid is returned. After securing a positive result, 50 c.c. of a 0.5 per cent. solution are injected without changing the position of the needle. The same procedure is followed on the other side. For the last two syringefuls (of 10 c.c. each) it is well to withdraw the needle partially and inject its contents just beneath the skin. Even large substernal goiters associated with severe dyspnea have not caused the slightest trouble when the above described technic has been employed. The regional anesthesia is as complete as with Härtel's multiple injections.

Wire Versus Nail Extension.—Ansinn prefers wire extension to nail extension for the alleged reason that it performs the same service and is associated with less danger from infection and formation of fistulas.

Zentralblatt für Gynäkologie, Leipzig

March 13, 1920, 44, No. 11

Critical Observations on the Simplified "Twilight Sleep." C. J. Gauss.—p. 257.
Tardy Results of Perforation of Uterus. K. Frankenstein.—p. 270.

Zentralblatt für innere Medizin, Leipzig

March 13, 1920, 41, No. 11

*Urobilinuria and Urobilinemia. H. Strauss and L. Hahn.—p. 193.

Urobilinuria and Urobilinemia.—Strauss and Hahn state that as urobilin is a normal ingredient of urine, it is also present in every blood serum, and its presence can be shown provided a sufficiently large amount of blood serum is taken for examination. Since urobilinuria denotes a physiologic condition, this term should not be used to designate an excess of urobilin in the urine; hyperurobilinuria is the proper term for this. The amount of urobilin in the blood varies greatly. It could not be found in normal persons in less than 48 c.c. of serum, so we might speak of a hyperurobilinemia when urobilin is found in a certain minimal quantity of blood serum.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Feb. 21, 1920, 1, No. 8

*Changes in Pulse and Respiration During Reaction to Mental Processes. J. Bramson.—p. 614. Begun in No. 7, p. 547.
Sign and Treatment of Influenza. H. B. L. Vos.—p. 634.

Influence of Mental Processes on Pulse and Respiration.—Bramson describes an electric contrivance with which the record of the respiration can be compared with the plethysmograph record during and after some slight mental process An unmistakable physiologic response in both directions is evident. Such tests would be useful in psychanalysis if the words on the cards were chosen with care. Bramson's findings confirm Benussi's study of the respiratory symptoms accompanying a lie.

Feb. 28, 1920, 1, No. 9

*Early Rupture of the Membranes. I. A. Wijsenbeek.—p. 695.
*Rabies. W. Hamburger.—p. 717.
*Protein Therapy. E. H. B. van Lier.—p. 725.

Early Artificial Rupture of the Membranes.—Wijsenbeek compares the experiences at the maternity in Utrecht, where the bag of waters is spared as long as possible, with those at the maternity of Leyden where it is the routine practice to rupture the membranes early. In both series there were a number of cases in which delivery was abnormally prolonged; the rupture in itself does not seem to influence this. But the disadvantages in such cases of the membranes being ruptured is evident.

Prophylactic Treatment of Rabies.—Hamburger comments on the great increase in the number of cases of rabies in France and Belgium during and since the war. In the Netherlands, the burgemeester supplies money for traveling and other expenses so that prophylactic treatment for rabies is within the reach of every one free of charge. But the country has long been free from rabies until recently when a number of patients from the eastern provinces applied for treatment. In comparison with smallpox vaccination, the antirabies treatment has the drawback that it is applied, not to the healthy, but during the incubation of the disease.

Protein Therapy.—Van Lier analyzes the extensive literature of the last few years for and against parenteral injections of milk. He relates that the *Deutsche medizinische Wochenschrift*, No. 20, 1918, had an article by Müller extolling the harmlessness of the injections as he had been making them for two years, and on another page an account by Lubliner of fatal anaphylaxis from this cause, the robust girl dying from anaphylactic shock a few minutes after an injection of milk, eight days after a previous series of injections had been borne without mishap. Oppenheim has also reported a severe anaphylactic reaction after injection of milk the seventh day. The injections should be made with all the precautions of serotherapy, and van Lier suggests that it might be better to use horse serum or other source of protein, adding a little deutero-albumose at need, or some simple solution of albumin, instead of milk.

Acta Medica Scandinavica, Stockholm

Feb. 20, 1920, 52, No. 6

*Gastric Secretion in Young Children. A. T. B. Jacobsen.—p. 773.
*The Parathyroid Glands. H. Bergstrand.—p. 791. In German.

Gastric Secretion in Young Children.—Jacobsen tabulates the findings after the Ewald test meal in twenty-five children, between 1 and 5 years old, with apparently normal digestive apparatus, and in six children with acute and twenty-four with subacute or chronic gastro-intestinal disturbance. The stool findings are also tabulated. These experiences testify that in children of this age the secretion of hydrochloric acid and of pepsin is not so strong as in adults, even in health. The congo and other reactions are weaker. With gastro-intestinal disturbance, achylia or hypocholia was found in about 75 per cent., but conditions returned to approximate normal as the gastro-intestinal disorders were cured. The stomach seemed to share in the presumed catarrhal condition in the bowels. He has been very successful in treatment with a milk and gruel diet after a few days of raw oatmeal soup following twelve hours of restriction to water during which the child was given 5 gm. of castor oil. Then one-fourth liter milk; a day or two later, one-quarter liter milk gruel; then one-half liter milk, one-quarter liter milk gruel and one-half liter water gruel, after which were allowed rusks, porridge, sweet sago soup, minced fish with melted butter and finally mashed potato, minced meat and tea. He ascribes the rapid benefit to the milk in these acute and chronic cases. Functional tests of the stomach proved to be superfluous, as the course was the same in the cases with and without anomalies in the gastric secretion. The article is in English.

Normal Anatomy of the Parathyroid Glands.—Bergstrand gives six pages of bibliography on the parathyroids and thirteen photomicrographs of the findings in parathyroids from adults, and discusses the minute structure and functions of the different elements. His conclusions differ in certain respects from those generally adopted.

Finska Läkaresällskapets Handlingar, Helsingfors

January-February, 1920, 62, No. 1-2

*Roentgenotherapy in Gynecology. O. A. Boije.—p. 1.
*Transient Hyperopia in Diabetes. E. Enroth.—p. 28.

Roentgen-Ray Treatment of Uterine Myomas and Hemorrhagic Tendency.—Boije reports that the hemorrhages ceased entirely in 83.7 per cent. of his 49 cases of uterine myomas, and the tumors shriveled in 95.5 per cent. Only one case proved refractory to this treatment and no untoward by-effects were observed in any instance, or in 14 cases of uterine hemorrhages. In 5 of the latter complete amenorrhea was realized, and in the others the hemorrhages were restored to normal proportions. He warns, however, that polypous, submucosa and degenerated or gangrenous myomas are not adapted for radiotherapy. Operative measures also act quicker and more certainly on pain, but it may be wise to reduce the hemorrhagic tendency with radiotherapy and wait for the anemia to improve before attempting the operation.

He emphasizes that if myomas require intervention before 40 or 42, conservative enucleation should be the rule, but radiotherapy very cautiously applied might be advisable for younger women with ordinary menorrhagia and metrorrhagia. Between 40 and 45 it is better not to strive to arrest menstruation entirely. "The main point," he reiterates, "in radiotherapy is the selection of the cases for it. With the proper indications, the outcome is as favorable as with operative measures and with less risk."

Transient Hyperopia in Diabetes.—Enroth describes two cases of diabetes mellitus in a coachman of 48 and a farmer of 34 in which hyperopia up to 3 D developed suddenly in one and more gradually in the latter. It disappeared gradually in the first case by the third month; in the other the manifest hyperopia did not last more than five weeks. Changes in the lens seem to be responsible for the transient hyperopia, as he explains. Experimental glycosuria with examination of the sugar content and the refraction index in the fluids in the eyeball might throw further light on the question. He has encountered three cases of transient hyperopia in diabetes in the course of little more than two years, and has found twenty-seven cases on record in the literature.

Hospitalstidende, Copenhagen

Jan. 28, 1920, **63**, No. 4

*Regulation of Neutrality in Epilepsy. A. Bisgaard and J. Nørvig. —p. 49.

Causation and Treatment of Epilepsy.—Bisgaard and Nørvig have been conducting research on sixteen epileptics in an institution, with comparative research on healthy persons—a total of several thousand investigations of blood and urine. They found a most remarkable increase in the ammonia content of the blood about three hours before an epileptic seizure or an epileptic psychic equivalent. Their charts show, as they say, "actually colossal" fluctuations in the ammonia content at these times. They were able to detect them by control of the ammonia content of the urine; when this began to go up, they examined the blood, and thus happened on the preseizure rise. They applied the van Slyke, Cullen, Folin, Kjeldahl and Hasselbach technics in their study of blood and urine, hydrogen ions, etc. Their discovery of the increase in the ammonia of the blood in the psychic-epileptic status is, they say, the first well defined endogenous toxic substance yet demonstrated in connection with psychoses. The epileptic seizure seems to be a kind of anaphylactic shock or poisoning with albumin waste products. One man weighing 65 kg. had an amount of ammonia in the blood, just before a seizure, corresponding to 32 c.c. of normal solution of ammonia, that is, of a 1.7 per cent. solution. Besides ammonia, other toxic elements may be at work, but they are not able to bring on the seizure until the ammonia reaches a certain concentration in the blood.

Bisgaard and Nørvig conclude their extensive report with arguments to sustain the analogy between tetany and epilepsy, and their possible common etiology from deficiency in the parathyroid glands. The anamnesis of epileptics needs revision and the treatment, instead of being merely with sedatives to reduce reflex action, may advantageously attack the endocrine disturbance presumably responsible. The attempts published to date in this line have not been encouraging except with autotransplantation. Possibly the differences between donor and recipient may have interfered with the success of homotransplantation.

Feb. 4, 1920, **63**, No. 5

*The Epidemic of Influenza in Iceland. S. Matthiasson.—p. 65.

Influenza in Iceland.—This report of the epidemic in Iceland states that the strict quarantine enforced restricted the disease to the southern and western parts of the island, and the rest of the population escaped entirely.

Hygiea, Stockholm

March 15, 1920, **82**, No. 5

*Total Gastrectomy. H. Sundberg.—p. 145.
*Origin of Gastric Ulcer. R. Dahl.—p. 159.

Gastrectomy.—In the first of Sundberg's two cases there had been symptoms suggesting cancer of the stomach for several months in the woman of 64, but the glands around were not involved, and the stomach was freely movable. The woman is living in good health to date fifteen months after he resected the whole of the stomach except a small part of the cardia which was sutured to a loop of jejunum brought up through a wide opening made for it in the mesocolon. The loop was carried in a wide curve past the duodenum to which it was fastened. In the second case a still more complete operation was done; the jejunum loop had to be sutured to the esophagus. The condition was good after the operation but the woman of 65 succumbed shortly after to a recurring cerebral hemorrhage.

Origin of Gastric Ulcer.—Dahl presents evidence to show that aberrant cells of intestinal mucosa in the stomach and of stomach mucosa in the duodenum may be the points of lesser resistance which lead to the production of ulcers.

Ugeskrift for Læger, Copenhagen

March 11, 1920, **82**, No. 11

*Polycythemia with Juxtapyloric Ulcer. H. I. Bing.—p. 337.
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Polycythemia with Juxtapyloric Ulcer.—Bing has heard of four cases in Denmark in which polycythemia accompanied duodenal ulcer, but he has been able to find in the literature only one article referring to this subject, Friedmann's report (American) in 1914 of twenty-five cases of a hitherto undescribed form of polycythemia and its possible relation to duodenal ulcer. Bing remarks, to begin with, that Friedmann's assumption that the normal limit for the erythrocyte count is 5 or 5.5 millions, is incorrect; the normal limit is 6 for women and 6.5 for men. He says further that Friedmann's account shows that the ulcers were juxtapyloric rather than strictly duodenal. Friedmann suggests as an explanation that an excess of epinephrin in the blood may explain both the ulcer and the polycythemia, citing Falta's statements that polycythemia developed in animals injected with epinephrin. Bing does not accept this explanation, and thinks abnormal losses of salt may possibly be the decisive factor. He reports a case of juxtapyloric ulcer in a man of 27 in which he found 7 millions erythrocytes in blood from the lobe of the ear and 8.2 millions in blood from the abdominal wall. Examination a week later, however, showed only 4.7 millions. In a woman with extreme retention in the fasting stomach, requiring the use of the stomach tube, he noted that the aspirated fluid contained large amounts of salt, from 2 to 9 gm. in the 300 c.c. of stomach content extracted each day. Salt might also be lost in vomited fluids. The output of urine ranged from 750 to 1,450 c.c.; the specific gravity was sometimes down to 1.003. The food contained usually little salt. The ash in the blood was 8.9 and the erythrocyte figure 7.5 or 7.1 millions; in blood from the skin of the abdomen it was sometimes 8.4 millions. The chlorid content of the urine ranged from 0.31 to 4.09, and of the blood from 3.5 to 4.1, with hemoglobin 128. These and other findings suggest, Bing states, that the excessive losses of salt may have been responsible for a relative polycythemia, restoring the balance in the blood. Perhaps the large amounts of soda which Friedmann's patients had been taking may have modified the chlorid content of the plasma.

Acute Orbital Disease Originating in the Nasal Sinuses.—Mygind reviews in detail the extensive experiences in this line at the Copenhagen eye and ear clinics, and urges the necessity for prompt and ample evacuation of the foci in the orbit and sinus, discussing the indications.

Radium Treatment of Uterine Cancer at Stockholm.—Hansen reports sixty-six patients with uterine cancer treated with radium over five years ago, mostly inoperable cases. About 6 per cent. died from intercurrent disease or have been lost to further investigation, but 27.3 per cent. are known to be living after the five year interval.